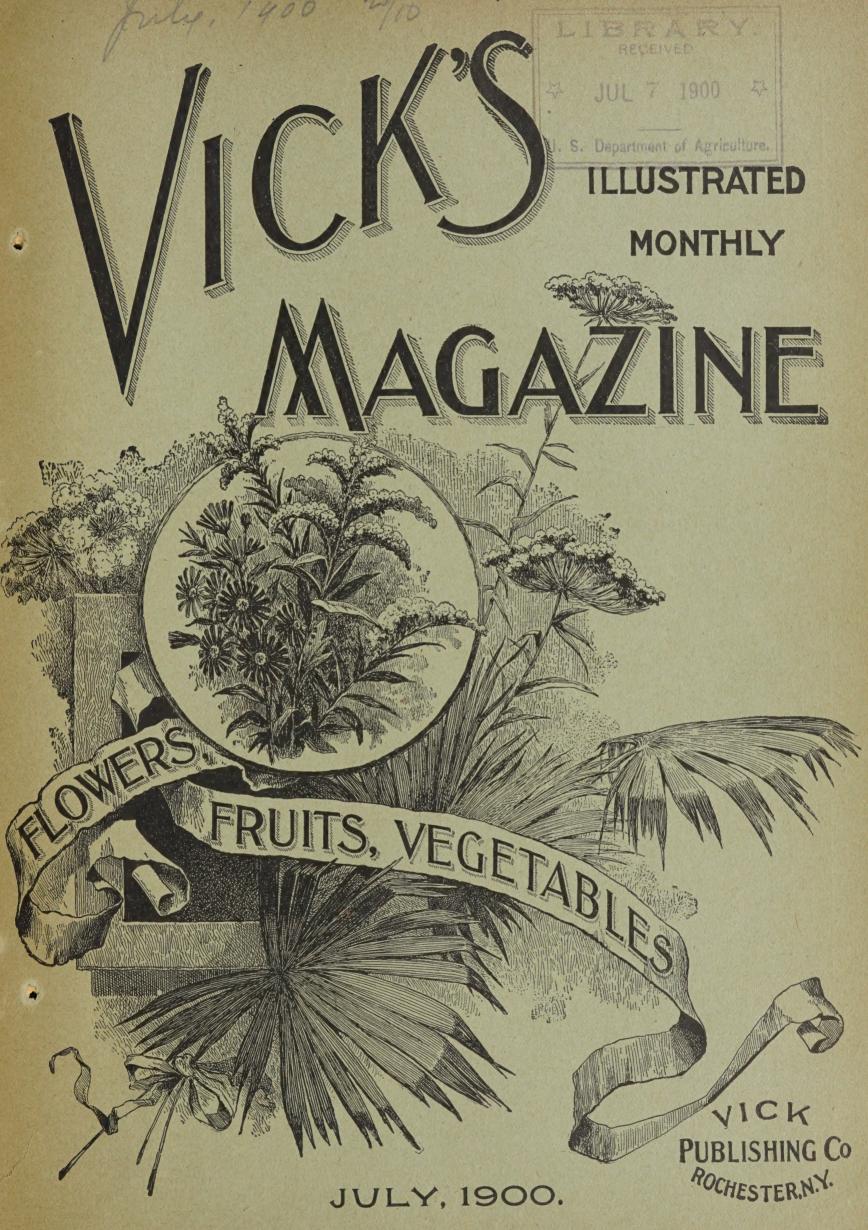
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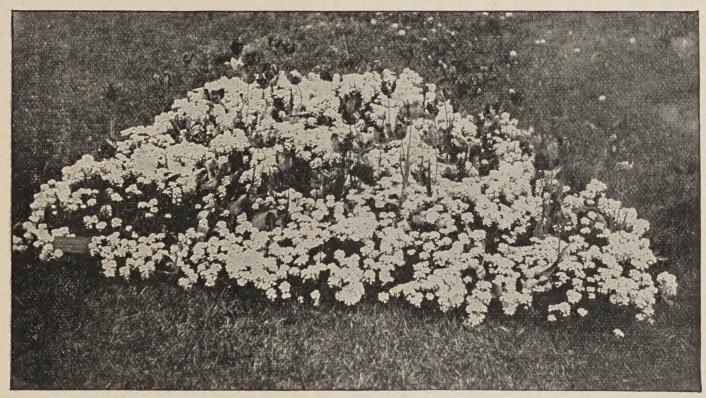


Lilium philadelphicum.

VOLUME XXIII. SERIES III, VOL. I.

JULY, 1900

No. CCLXXI. No. X.



BED OF EVERGREEN CANDYTUFT AND PARROT TULIPS

A FINE EARLY-FLOWERING PLANT.

I BERIS SEMPERVIRENS, or Evergreen Candytuft, is one of the most desirable plants for early spring blooming that can be imagined. In habit it is half-shrubby, spreading, evergreen, and perfectly hardy in all situations. It flowers early in May, and the dark green plants are transformed into masses of white, remaining in bloom for several weeks. In good soil and fully exposed to the sunshine it grows to nearly a foot in height. Like all the candytufts it does better in sunshine than in shade. The plants can be increased by seeds or cuttings.

Iberis sempervirens is suitable where a dwarf, evergreen edging is required for shrubbery or beds of hardy perennials, and it is also very desirable for planting in clumps on rockeries, but it shows to best advantage when grown in masses. Its early blooming

quality alone would recommend it for general cultivation, but the pure white of the blossoms and the fact that they last well as cut flowers, are additional recommendations.

A beautiful effect was obtained at Highland Park, in this city, by planting Parrot tulips with the Evergreen candytuft. The bed, as represented in the engraving above, was on the slope of a hill facing the southwest. The tulips, as well as the candytuft, did well in this situation. The brilliant blossoms of the tulips, with their gorgeous blending of yellow red, and green, rising a foot or more above the groundwork of the pure white flowers of the candytuft, and swaying here and there with the gentle breezes, made a beautiful sight on the hillside with its setting of fresh green grass, - especially when viewed from a short distance. F. B.

THE PAN-AMERICAN EXPOSITION.

THE garden and farming communities of this country are looking forward to the Pan-American Exposition at Buffalo, N. Y., next year, with high anticipations of satisfactory displays of trees, flowering shrubs and pot plants, and cut flowers, fruits, vegetables, agricultural

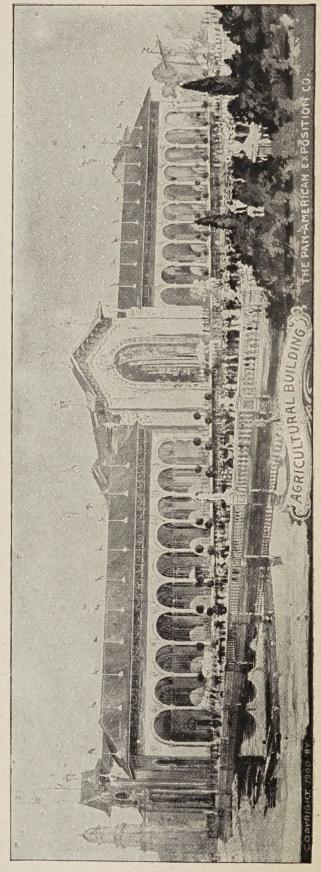
products of all kinds, machines, tools and implements, and everything pertaining to the great inter-

ests of agriculture and gardening.

The grounds and buildings are planned and arranged on a broad scale, and all departments are under the supervision of skilled managers. Exposition will open May 1, 1901, and close November I, of the same year. In the embellishment of the grounds the architects have planned to use trees and shrubs, foliage and flowering plants in quantity to dazzle the lovers of fine horticultural displays. The extensive area of the Exposition grounds affords abundant room for the elaborate pageantry of color that is here contemplated. There are nearly 350 acres in the Exposition site, of which about one-third are the improved lands of Buffalo's beautiful Delaware Park. Upon the park lands many thousands of dollars have been expended from year to year in the past, in maintaining and improving the variety and display of rare shrubs and trees. This portion of the landscape includes a park lake of irregular shape; it is charmingly picturesque when the shores are clad in their summer garb of foliage. This part of the park will receive special attention in preparation for the coming Exposition.

Lying directly north of the park lands and upon a higher elevation, is the remainder of the Exposition plot. Included in the plan for the arrangement of the buildings is a magnificent court 3,000 feet long, with a transverse court 1,700 from east to west, besides subordinate courts. All of these open spaces are to be beautified with palms and other tropical plants in tubs and vases placed near the surrounding buildings and beside the fountains and pools. To these will be added sunken gardens of elaborate arrangement, and formal flower beds wherever their presence will enhance the beauty of the courts.

Among the flowers and foliage plants will be many sparkling fountains to enliven the beauteous scene. The water features of the Exposition will include a Grand Canal more than one mile in length, which completely encircles the main group of buildings. Lagoons with sodded banks, and shaded with a variety of trees, shoot off from the



main canal at various points and add their beauty to the landscape effect. The entire outer wall of the Exposition grounds is to be a bank of solid foliage. Many thousands of trees, shrubs and cuttings have already been planted in preparation for the elaborate horticultural features. Large trees, which fortunately were already upon the Exposition site, have been preserved by transference to places where their stately shafts of green would heighten the

color effect in contrast with the brighter hues of the buildings.

The building to be devoted to the Department of Horticulture, of which Mr. F. W. Taylor is chief, is 220 feet square. It has two arcaded wings sweeping from the north and south façades to the eastward and connecting with other buildings to form a semi-circular court. West of these arcades are the conservatories in which will be displayed the palms and other plants of tropical origin. The arcades leading from the main building will be kept gay the entire season with flow-

ering and ornamental plants. The large building will be used for the display of fruits and various other exhibits pertaining to horticulture. It is expected that the State of New York will spend at least \$10,000 in aiding the horticultural societies of the State to extend and replenish their exhibits during the season of the Exposition. The Horticultural Building will be one of the most picturesque of the Exposition buildings.

Several acres of land are to be devoted to the use of gardeners and florists who will plant beds to exhibit the great variety of plants used for bedding in this country. Also, an immense variety of hardy perennials and climbing plants.

The water gardens, of which there will be a number in various parts of the grounds, will be important and attractive features which will include in their displays besides the mammoth Victoria regia of the Amazon and the nelumbiums of the Nile, many nymphæas never before exhibited. When at their best there will be special exhibitions of roses, glad-

iolus, dahlias, sweet peas, chrysanthemums, and other popular flowers. Exhibits from all the large growers of the country are assured. The displays of the now popular canna will surpass anything yet seen either in America or Europe. One may, therefore, confidently expect this Exposition to be, from the view point of the horticulturist, the most brilliant ever held. The Agricultural Building will cover nearly two acres in extent, where will be displayed the many agricultural products of the country.

The Electric Tower, which is to stand in a broad aquatic basin, will be 348 feet high, the

main portion of the tower being eighty teet square. This will be the center-piece of the Exposition. It is intended to have the electric displays the most elaborate ever undertaken. The nearness of Niagara Falls makes this possible, on account of the unlimited power developed from the great cataract and transmitted to Buffalo by means of large copper cables. It is expected that between five and six million dollars will have been expended on the Exposition buildings and the grounds for their usefulness and beauty, before the installation of exhibits begins.



SHORT-LEAVED SPRUCE PICEA BREVIFOLIA

THE SHORT-LEAVED SPRUCE.

THE discovery of a new species of tree in our northern woods was a rare occurrence that fell to the lot of Mr. Charles H. Peck, State Botanist of New York, in the year 1897. This tree is the short-leaved spruce, or Picea brevifolia, of which Mr. Peck published a description in 1898. A botanical description of this species is given in the appendix of Britton & Brown's Flora of the Northern United States and Canada, page 496.

For the engraving of the tree here presented we are indebted to Mr. Wilfred A. Brotherton, of Rochester, Mich., who also supplies some information in regard to this tree, the main substance of which is here given:

Mr. Peck found the tree in the Adirondack region of this State, but previous to this time it had been noticed by Mr. Brotherton in the southeastern portions of the lower Michigan peninsula, and its peculiarities noted, causing more or less discussion between him and other naturalists, in endeavoring to classify it satisfactorily with either the White Spruce, the Black Spruce, or the Red Spruce. The conclusion of Doctor Peck in the matter was accepted without hesitation when announced. Mr. B. says that Picea brevifolia, so far as known, is found in a very limited area - some parts of Vermont, the Adirondack region of northern New York, and the highlands of the southeastern portion of lower Michigan. He thinks it a handsome tree and the smallest and slowest growing of our native species, rarely or never exceeding thirty feet in height. It is of regular pyramidal form, and becoming more tapering with age. The general color is pale glaucous green, very pleasing to the sight, and this with its handsome form will make it desirable as an ornamental tree, and especially for small-sized grounds. The leaves are shorter than those of any other species, being from two-twelfths to five-twelfths of an inch in length, and not often of the latter size. The cones are rarely one inch in length, oval or ovoid, approaching in form those of the Red Spruce, but differing in form from it, and in the fact that the cones persist on the trees for at least two years, while those of the Red Spruce drop off the first year, and are also larger than those of the Short-leaved Spruce; the scales of the cones are also unlike in the two varieties. The cones are quite unlike the larger and oblong cylindric cones of the White Spruce, or the still larger and thicker oval or ovoid cones of the Black Spruce.

In regard to the comparative sizes of the trees of these species, the Short-leaved Spruce is much smaller, rarely reaching a height of thirty feet, with a diameter of one foot, while the White Spruce attains the height of 150 feet and a diameter of three feet, the Black Spruce ninety feet and a diameter of two or three feet, and the Red Spruce 100 feet with a diameter of four feet. It is found, we are informed, usually in highland swamps, but will adapt itself to planting on drier lands, and will prove desirable for ornamental planting.

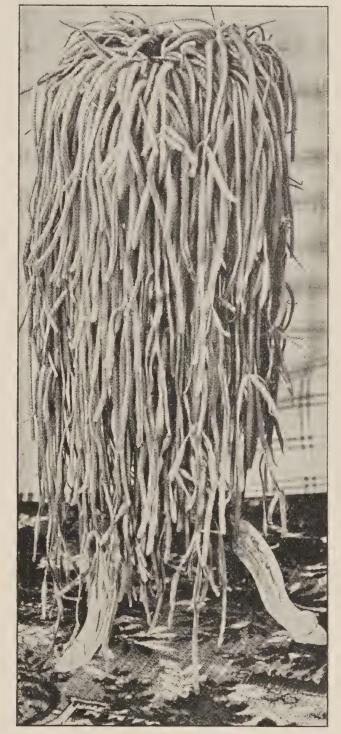
THE RAT-TAIL CACTUS - CEREUS FLAGELLIFORMIS.

WONDER how many readers of the MAG-AZINE have the pleasure of growing Cereus flagelliformis in the form of a basket? It is a delight that no one can appreciate until the trial is made. Almost every body loves a hanging basket, and I think that this fills a want for that purpose that nothing else can supply. It combines several good qualities as a basket plant, among which are its oddity, its freedom and beauty of bloom, and another, which is that it can be neglected with impunity. In fact it thrives much better if neglected than when fertilized, watered, and petted too much. If watered too much then "bad luck to ye," it will surely rot off. If it is neglected I am more sure of keeping my basket. I don't mean by neglect, that it can be placed on the mantle shelf and left there year after year without any water or care. I mean that it will stand neglect to a great degree and still thrive. It has the knack of waiting to quench its thirst. Of course if kept dry too long it will begin to wrinkle up. If this plant is placed out-doors, where the night dews can fall on it, it is amazing how little water it will need. It enjoys the hot sun. It seems that no artificial heat does it the good that does the hot sun. Get it used to the rays of old Sol by degrees, and then let it be placed, if possible, where it can have it from sun up 'till sun down. Always water after the sun goes down if water is needed at all. I always use for it good soil composed of not more than one third sand.

The long, flexible and drooping growth of the plant makes it well adapted for hanging baskets. The branches are covered with a net work of very fragile spines, which give the plant a kind of wooly look. It is very easy to propagate from slips. No slips should be taken from the plant unless the whole length of the branch is taken where it starts to grow. If it should be cut in the middle it never heals over. There will always remain an ugly black spot on the end, and most likely it will be years before it starts to grow again from that point.

My plant is seven years old and I have

never seen an insect on it. I think it must be quite free from insects of all kinds. To make a good hanging basket with this plant it should have a dish none too large for its roots to do best. Holes must be provided to let off all the unnecessary water. In potting spread out the roots, as they do not grow downward, but near the surface. Do not repot often if you want it to bloom. Mine has never been in but two pots in seven years. The pot it is in now is a small gourd ten inches in diameter. It has grown in this one year, and I expect to leave it there as long as the gourd lasts. Sometimes I must give it something to eat if it looks as if it had a slight headache, caused by staying in the same bed too long. This is done by taking some rotted cow manure and put on water. After letting it stand a few hours I feed my patient with the rich nourishing soup, never letting it get on the stems, just on the ground. In a few days, usually two or three, the yellow look is gone and it is as green and fresh as ever. To make the stems branch, pinch off the eye from the tip end. In doing this be very careful not to pinch more than skin deep or else it will hurt the vine the same as when cut back. Sometimes as many as a dozen new branches will start at the tip end when pinched back. This plant rests during winter, therefore must not be watered while resting unless absolutely necessary. In spring soak up the soil thoroughly and pinch back the stems. Expose the plant gradually to the sun and in a short time it will put forth a great number of new shoots and buds, if old enough. The blossoms are a purplish pink and are freely produced. The plants are quite hardy and will stand a frost if not growing. But it is not advisable to MRS. W. M. KNOER. expose it to frost. Tennesee.



Cereus flagelliformis Grown by F. A. Hixson, Esq. Yates County, N. Y.

RAT-TAIL CACTUS AS A STAND PLANT

A SUMMER DAY.

Across the intervening valley wide
The emerald hill-tops kiss the sapphire sky;
In swaying hammock lazily I lie
And trace the line where blue and green divide,
Or watch the banks of foamy clouds that ride
Above me as I listen dreamily
To melodies among the boughs near by,
Loud trilled from throats which yellow-green leaves hide.
The cooling zephyrs breathe upon my face,
And every breath has balm of many flowers.
Oh, golden day of dear midsummer time,
Spellbound in thy voluptuous embrace,
I yield up grudgingly the passing hours,

And mourn thy fading hue the while I rhyme.

Lewis Dayton Burdick.

SOME FERNS OF WASHINGTON COUNTY, N. Y.

MONG the most interesting of our native plants are the ferns. They bear no flowers and usually grow in unfrequented places; for this reason, perhaps, they have not received the attention they deserve from plant lovers.

I shall here notice some native species that are common in woodlands, swamps, and pastures.

Near my home is a deep glen through which flows a small brook. It is an ideal place for ferns and all shade loving plants, and they take advantage of it thoroughly.



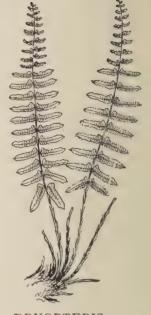
ADIANTUM PEDATUM

Here may be found in great profusion, the beautiful maiden hair, Adiantum pedatum. So thickly does it grow that in some places it forms dense green mats, many hundreds of individuals growing in a small space. I think nature played a trick on the birds when she fashioned this fern, for its fronds resemble nothing so much as a birds foot stuck in the ground with the toes uppermost. I suppose that is the reason for the latin pedatum, meaning a foot. It is interesting to note that it gets its Greek name from the fact that the rain drops do not readily adhere to its fronds. Adiantum meaning unwetted.

The fruit dots, which are the principal distinguishing marks of all ferns, in this plant are found on the underside of the division or pinnule, with a portion of the margin neatly folded over them.

The Christmas fern, Dryopteris acrostichoides, grows about here in the greatest profusion and luxuriance. Its long green fronds almost rival the Boston and Sword ferns of the conservatories. It is one of the hardiest of all our native ferns, I think. No matter how cold the

winter, its fronds can be found fresh and green. What it lacks in delicacy of foliage it makes up in this respect, for it is as much an evergreen as the spruces and hemlocks. Its fronds grow in a crown or cluster. and the base of each stem is covered with a rusty chaff. The fruit dots are borne on the upper pinnæ, and sometimes run together, giving the whole underside of that part of the frond a rusty appearance. Many fronds, however,



DRYOPTERIS ACHROSTICHOIDES

are sterile and bear no spores.

In the early spring I always look along the edges of shaded brooks for the delicate little Bladder fern (Cystopteris fragilis, L.) Its lace-like fronds lean over the edge and catch the spray from the minature waterfalls or admire their own beauty in the quiet pools. It was once classed as a Dryopteris, and indeed it bears a striking resemblance to that genus.

The name Cystopteris refers to the inflated and hood-shaped covering of the spores, which soon, however, withers away, and in the older specimens cannot be seen at all.

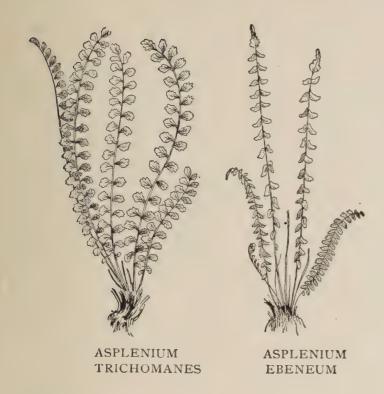
The Asplenium, or Spleenwort, is a large and varied genus containing about 350 species. It is represented in this locality by three or four only.

On a barren cliff overlooking the Batten-Kill valley, I find the Asplenium trichomanes, (L.), growing from nearly every crevice. How it clings when you attempt to detach it, as if it were loth to leave its gray friend. It CYSTOPTERIS will grow in no other situation as well as in its native home.



FRAGILIS

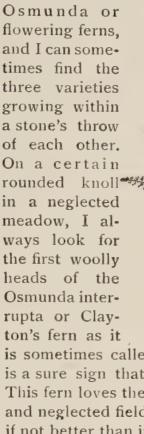
It throws out many fronds, which are simply pinnate, linnear, and usually five or six inches in length. The fruit dots are elongated and not round as in the Dryopteris, and there are only two or three on each division. A near relative of this little fern is the Asplenium

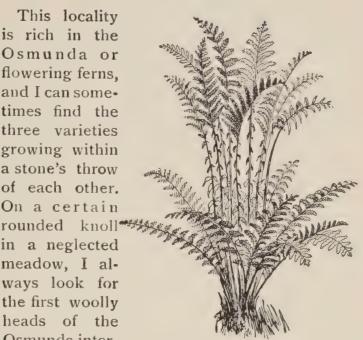


ebeneum (Aiton), found in the rocky woods. For a long time I supposed this fern a near relative of the Christmas fern, which it somewhat resembles, until a fertile frond was more closely examined. Then it was seen that the fruit dots were elongated, showing at once that it was a spleenwort. The fronds are eight to fifteen inches long and one to two wide. The main stalk is dark and polished like ebony, hence the name. The pinnæ of this fern have a little ear on the upper and sometimes on both sides of the base, and are described in the botanies as auricled.

The common brake, Pteris aquilina, is so conspicuous and inhabits so many localities, that it can hardly fail to attract the notice of the most unobservant. I find its coarse triangular fronds each year in a dense tangle beside a

woodland path. How it revels in the rich soil of that spot. It comes in crowds and armies, and only a few wood asters and golden-rods are allowed on the outer edges of its ranks. It possesses one peculiarity beside the shape of the fronds that makes it easily recognizable. Its fruit dots make a continuous line around the entire margin of the much divided frond. When the first hard frost comes, it touches the fern with no gentle hand, and winter finds only a brown and withered mass of leaves and stems.





OSMUNDA CLAYTONIANA

is sometimes called. When these appear it is a sure sign that spring has come to stay. This fern loves the moist soil of old pastures and neglected fields, and thrives here as well if not better than in more shaded places.

This fern cannot possibly be mistaken by the amateur. The brown and withered appearance of the two or three pairs of pinnæ near the middle of the frond make a certain sign for its identification. Far from being withered however, they bear the essential part of the plant, the spores.

In the center of the crown of the Osmunda cinnamomea, there comes up that peculiar fertile frond so completely covered with the spore cases that it has the rich cinnamon color that gives the fern its name. I wonder if it was not the fine, dust like spore of some

> member of the genus that Ben Jonson referred to (in the New Inn) when he wrote:

No medicine, sir, to go invisible, No fern seed in my pocket.

Along the margin of a sluggish creek, I seldom fail to find the Osmunda regalis or Royal fern. It loves such situations, where it grows in great profusion, its rather coarse fronds tipped with the fertile portions. The Osmundas as a class are among our most conspicuous ferns and many an uninviting spot owes what it does of beauty to their graceful fronds.



PTERIS AQUILINA



In late summer, every part of our river bottoms not accessible to the mowing machine is taken possession of by the Onoclea Struthiopteris. Its humble relative, the Onoclea sensibilis is also present, but is evidently scorned by its proud neighbor. I love to walk through the miniature jungle formed by the long feather-like fronds of

OSMUNDA CINNAMOMEA the Ostrich fern. One can imagine from the

aspect of this fern where it grows in abundance, something of how the forests of the carboniferous age must have looked with

their gigantic tree ferns. Both the Onocleas fruit in September and their fertilefrondsare nearly identical, each bearing their berrylike rows of spore cases. These fertile fronds stand erect long after the more graceful sterile ones are wilted and fallen.



OSMUNDA REGALIS

I have noticed

here only a few of our many interesting native ferns. There are many more, and a careful study will repay anyone. F. Dobbins.

WINDOW CULTURE OF AZALEA INDICA.

THIS beautiful foreign cousin of our lovely wild honeysuckle is less known in household culture than it deserves. Reasons for this are, probably, cost of the plants, compared with geraniums, etc.; difficulty of culture, owing to want of knowledge of its nature and habits; and almost impossibility of propagation outside of the greenhouse.

From Holland our florists receive large supplies of azaleas. They are grown there in large, shallow pans, instead of the deep pots used here. It is one of the wonders of the rapid transit of this rapid age, how these plants are imported in the autumn, and at once shipped perhaps half way across the continent, to fill waiting orders, with scarcely the loss of a leaf. The heads, often two feet in diameter and ready to bud, are drawn up into small space tied in paper and protected from frost.

The home care of the azalea is much less difficult than is usually supposed. The cardinal point is water, water always. This plant is an inveterate drinker and bather. The fine roots are tough and woody, and drouth means disaster. Aside from the ordinary watering, the pot should, if possible, be plunged at least weekly into a bucket of warm water and left while the bubbles rise

from the earth; at the same time the plant should be showered or sprayed, particularly the under side of the leaves, as a preventive or destroyer of the insects of which mention will be made.

The season of bloom of the azalea varies, according to variety and treatment, from January to April or May. During autumn and early winter, plants may be kept in a cool room, but out of danger of frost. Here buds will form, and develop rapidly when brought into a higher temperature. When bloom begins, small green shoots appear among the buds and blossoms; in the interest of perfect flowers and shapely plants these should at once be pinched out.

The frail-looking florets are very durable, often remaining upon the plant in perfection for two weeks, and coming in succession, as they do, a single plant is a thing of beauty for many weeks. The blooming season may be

> much prolonged by partially shading from the hot sun and placing the plant in a cooler room at night. After flowering, straggling, unprofitable sprays should be removed. The plant will quickly begin a new growth, which should be carefully pinched back to form a shapely head for the next season. No pruning should be allowed

after July. Azaleas rarely require repotting, and almost never into a pot more than one size larger. The soil should be one part sand, one part leaf mold or good garden soil, and one part of fine, well rotted manure, sifted well together; no clay or lime is allowed. After blooming remove the surface soil from the pot and dig in two tablespoonfuls of wood soot or one of wood ashes and fill up with the fresh soil. Sometimes, if the plant does not flourish, it is necessary to wash the roots. Turn it out by tapping the edge of the pot on a board or bench, holding the stem between the fingers of the left hand. Place the roots in a bucket of warm water; let them soak, and gently wash out the earth, then replace in the same pot with fresh soil.

An ideal summer location for azaleas is a northwestern nook formed by a main building and wing or fence, protecting from south and west sun and winds. Place the pots in their saucers, on bits of boards on the ground, in a clump of taller plants,—oleanders, ferns, etc.,—but never omit watering and showering unless the clouds kindly do this service for you.

The azalea is subject to an insect enemy which I have never seen elsewhere, nor have I ever seen a mention of it by writers on flori-

culture. It has probably been imported with the plant. Seen with the naked eye one would suppose it to be, but for its animation, a bit of fine, black hair, one-sixteenth of an inch long. An ordinary, low-power lens reveals a very active, monitor-shaped little creature,—the young, mere translucent specs, the adults dark, with what at first seems a white stripe down each side of the body, but which closer investigation of probably older specimens shows to be wings. All are voraciously foraging upon the juices of the leaf, confining themselves largely to the under side; the result is a dropping of the foliage, marring the beauty of the plant. Specimens sent to the Smithsonian Institution, Washington, D. C., elicited the following information from F. W. True, Executive Curator:

The insects transmitted by you, November 13th, have been examined by Mr. W. H. Ashmead, Assistant Curator of the Division of Insects, who reports that they are specimens of *Thripsidæ* which have, unfortunately, never been studied in America, and only a few of the more common species have been described. The species represented by your specimens evidently belongs to the genus *Phleothrips*, but is apparently undescribed. With your permission they will be retained in our collections.

The Curator also suggests the use of a kerosene emulsion against this foe, so tiny but so injurious.

Anna Carpenter.

Pennsylvania.

FLORAL DECORATIONS.

UNLESS one is possessed of exceptional taste, it is, I think, safest to use glass receptacles for all cut flowers. A colored or decorated vase is certain to lessen the charm



of a bouquet, unless it is chosen with exact regard for the rules of harmony. Clear glass accords perfectly with the flowers and foliage of nearly all plants, so, when receptacles of this kind are used, the amateur need only consider the arrangement of flowers them-

selves, to be sure of artistic effect. Some flowers are much more decorative arranged by themselves than when included with other kinds.

Those who delight in ornamenting their rooms constantly with cut flowers, will do well to plant plenty of gysophila, and annual ambrosia, as both are admirably adapted for making bouquets.

The artillery plant, another cheap annual, is very valuable for the same purpose. Its

graceful leaves look particularly well arranged with geranium, or other stiff looking blossoms.

Petunias are beautiful when placed in a tureen, and allowed to fall carelessly over the sides as you see them in the garden beds.

Pansies may be effectively arranged in a large conch shell filled with damp sand.

Daisies are prettiest in an old-fashioned blue jar.

A dainty decoration for the dining table is a mass of bright nasturtiums, with their

peculiar foliage. They are especially beautiful when heaped in a Venitian glass of graceful shape, and allowed to tumble



carelessly over the rim. A quantity of leaves should be used with the flowers.

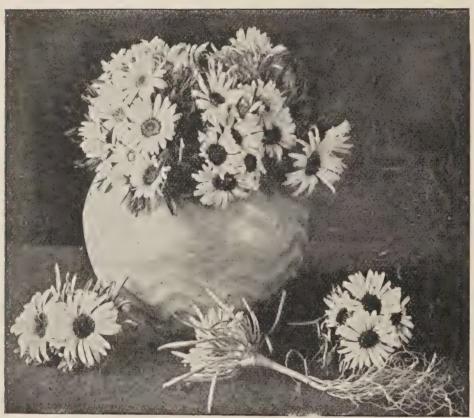
An open fire-place may be given a very pleasing appearance in summer, by placing in it a rough, brown jar of quaint shape, and keeping it filled with wild flowers.

AGNES MARGUERITE STUART,

SOME COLORADO WILD FLOWERS.

In looking over a collection of Colorado flowers, especially those from the mountainous sections, one would be quickly impressed by the great variety and brilliancy of color, by the compact, vigorous, though often dwarfed, plant growth, and by the multitude of specialized forms, induced by peculiar conditions of climate or habitat; which goes to show the exceeding adaptability of plant life to surroundings.

One of the earliest flowers is the Easter daisy (Townsendia servicea, Hawk), which grows on sunny knolls. The heads are an inch or more broad, with white or rose tinted rays, and nestle so close among the narrow



Easter Daisy

TOWNSENDIA SERVICEA

silky foliage that they appaar to rest directly upon the ground. Young plants bear but one or two heads, but the older plants form large mats so thickly set with flowers that the rays of different heads overlap each other. The blossom buds form in autumn and grow to nearly full size before winter. The leaves and buds remain green all winter and are ready to start with the first breath of spring. The root is perennial, and does not seem to be particular as to soil.

Another spring flower, the Penny Cress (Thlaspi alpestre L.), is found on shady north slopes, and often begins blooming when less than an inch tall, but the stems lengthen to several inches as the flowers expand. The

flowers are white or pink, and so abundant, that although individually small, they make quite a brave showing on the rockery, or as an edging or small border plant. The rockery or some shady corner just suits their requirements. The Western Spring Beauty (Claytonia lanceolata*), blooms a little later and differs from its eastern relative in its broader foliage with, perhaps, deeper rose-tinted flowers. It is easily cultivated in a partly shaded spot, preferring a soil rich in leaf mould.

The Anemone patens Nutt., or Pasque flower, the Oregon Grape (Berberis repens), with its racemes of golden flowers and purple fruit are both early visitors. Some time I may

notice some other Colorado plants and perhaps illustrate some of the effects of high altitudes on plant life.

D. M. Andrews.

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AN APPALACHIAN NATIONAL PARK.

THERE is a movement to have a National Park established which shall include over forty of the highest mountain peaks of the lower Appalachian chain. The proposed site is west of Asheville in North Carolina and a part of Tennessee, extending some thirty miles north and south and less than half that in average width. It will include some of the most picturesque scenery in North America.

There are many beautiful mountain streams naturally stocked with brook trout, that are the headwaters of rivers flowing both east and west. The whole area, with the exception of a few cleared patches, is covered with heavy timber growth of the most interesting and valuable kinds. As a forest reserve the park would be source of permanent profit to the government, under proper management.

Let everyone favor the movement.

H. E. VANDEMAN.

^{*} As well as may be judged from the engraving presented, the plant here described by our correspondent is Claytonia Caroliniana, var. sessilifolia of Torr., and the same is called C. lanceolata sessilifolia by Aven Nelson, in his article "New Plants from Wyoming," in Bulletin of Torrey Botanical Club, May, 1900, p. 259.— Ed.

THE WICHURAIANA HYBRIDS.

THESE hybrids are a race of hardy running roses which are equally valuable for use in ordinary gardens, cemeteries and parks. Some of the varieties, especially the double flowered ones, are fine for pot plants or can be bedded out in the greenhouse and be trained to cover a side wall. When used for pot plants it will be necessary to set three or four slender sticks or wires as high as the plant is expected to grow and train the young branches around them, tying often to keep them in shape. In this way a symmetrical plant will be formed, which could not otherwise be, as the growth being slender will not hold itself in position.

They are all hybrids of Rosa Wichuraiana, the well-known trailing Memorial rose, crossed with everblooming roses in most cases, but one—the Pink Roamer—having Sweet Brier as the other parent.

For covering mounds or stumps these trailing roses are invaluable, forming a solid green mat, hiding the ground or stump completely and being beautiful even when not in bloom; but when in bloom they form a floral carpet of great beauty. The foliage is almost evergreen in the north, and a little further south is entirely so; and their bright

red heps which are produced in great profusion, remain perfect on the plant all winter.

All of these roses can be trained to grow upright if desired, and being of slender, wirv growth they form very graceful bushes. It is necessary to tie the plants firmly to stakes for the first four or five feet of their growth, then let them fall over naturally, when the bush will form a floral fountain falling over in all directions and covered in midsummer with its wealth of beautiful roses. The plants can be trained fan-shaped against a wall or trellis, and made to cover a large space, as they are rapid growers when well established; they will also cover an arch beautifully, one plant being set at each end of the arch. Their regular flowering season is in July, after the June roses are gone, thus prolonging the ror

season until almost time for the fall blooming Hybrid Perpetuals. Occasionally roses will of also be seen on these plants during the fall, which shows their ever-blooming parents' traits. The varieties best known are:

South Orange Perfection, which has double flowers of soft blush, with pink tips to the petals, fading to white as the flower grows old.

Manda's Triumph, or Double White Memorial Rose, is a pure white, double variety of great beauty, the flowers being produced in clusters of from ten to fifteen and rising well above the foliage; they also possess a delightful fragrance.

Universal Favorite, or Double Pink Memo-



Penny Cress

THLASPI ALPESTRE

rial rose, is identical with the preceding except in color, which is a soft, light pink, with the same delightful fragrance.

Pink Roamer, the Sweet Brier hybrid, has very large, single flowers of a bright, rich pink, with a silvery white center and deep orange stamens. The stamens are of such a peculiar color, and so prominent, that they give an added beauty to the flower. This rose has the true Sweet Brier fragrance.

The newer sorts, just introduced, show a decided change in the strain. Gardenia, a hybrid of Perle des Jardins, has larger foliage and stronger stems than the preceding. The roses are produced singly on very long stems; color bright yellow in bud, but pale yellow when fully expanded; they are often three inches across, and very fragrant.

Jersey Beauty, another Perle des Jardins hybrid, is a very vigorous grower, with thick, shiny foliage. Flowers are produced both singly and in clusters; large, single, yellow, very fragrant.

Evergreen Gem is evergreen, as its name implies; a hybrid of Madame Hoste, and keeps the creeping habit and slender stems of the Wichuraiana race. Flowers buff when opening, but nearly white when expanded, very

double and have the fragrance of Sweet Brier.

With the exception of the latest growth in fall, which is,—of course, not well ripened,—these roses are perfectly hardy, living through any ordinary winter without protection. It is well, however, to throw a slight covering over them to protect them from the freezing and thawing in early spring, which hurts such plants far more than continued cold.

H. M. W.



Western Spring Beauty

CLAYTONIA LANCEOLATA SESSILIFOLIA

COME INTO MY CONSERVATORY-No. 2.

CTANDING just below my geraniums is a Chinese lily, a wealth of bloom and fragrance. Our Chinese laundryman gave it to me; he comes often to buy "chickee," and as he shuffles out of the yard, the live bird tucked snugly under his big sleeve, he invariably turns, and, with a significant grin, remarks "you' chickee good eatee." One day he came to the kitchen door and with many funny little nods and "mornin', coldee mornin'," he took from out the aforesaid immeasurable sleeve this lovely bulb. I gave it my handsomest glass dish, surrounded it with pretty stones gathered on the shores of Lake Superior, and five flower stalks have been my reward.

This is the pretty legend they tell in regard to its origin: "Once upon a time" there lived in China two orphan brothers. The elder inherited the larger share of the parental estate, and not satisfied with his portion, he seized the most valuable part of the younger's, leaving him only a few acres of rocky, unfruitful soil.

Overcome with poverty and hunger, the younger brother threw himself upon the

ground, sobbing and bewailing his cruel fate. Suddenly a voice called his name. Looking up, he saw a fairy bending over him, who bade him arise, saying, "Thy patience and forbearance have been noticed, and now great shall be thy reward. Thou shalt find riches and fame beneath the soil where thy head but a moment ago rested. To reach the treasure will be no easy task, but be patient and persevering. Rest not until thou hast found that which shall cause thee to be honored and loved for a thousand generations."

Then the fairy vanished. With new-born courage and hope he began the task of finding the buried treasure. For many days he dug faithfully, and finally found a flower bulb. He planted and nourished it until from it there grew a wondrous flower. Hundreds of people came to see it. Riches and honor came to him, for, strange as it may seem, the flower would not grow in any other part of China. He named his treasure "Shuey Seen Fah," or "Flower of the Water Fairy"—in common parlance known simply as the "Chinese lily."

Fonda, N. Y.

N. S. W.

THE MADERIA VINE.*

I SEND you by today's mail a photograph of our place, showing the possibilities of the maderia vine. These vines are over thirty feet long, and at this date, October 21, 1899, are as green as ever and covered with a mass of pretty white blossoms.

The ceiling of the porch is covered with vines and bloom; we having trained the vines

but to my notion it is not at all satisfactory, as the cool nights of September turn the leaves yellow and the vine soon becomes unsightly.

Owing to our cool nights and short seasons the Japanese morning glory and the moon flower can not be successfully grown here. The old-fashioned morning glory does well if planted in the fall or very early in the spring



across on strings,—this of course does not show in the picture.

The maderia vine is by all odds the best all around vine for this climate, but strange to say it is seldom seen here, as most people know nothing about it or think it cannot be successfully grown here.

The wild cucumber vine is generally grown,

but they are not so lasting as the maderia vine as they are now, October 21st, turning brown, and cease to be beautiful.

Now in regard to the growing of the maderia vine I want to say a few words to your Colorado readers. I grow mine successfully every year and never have any trouble with them. I manage them as follows: I plant the tubers

* The foregoing communication penned on the 21st of October, last, was sent to us in March by Mrs. M. J. Mallonee, of Colorado, who thus writes:

Vick Publishing Co.:

Rochester, N. Y.,

Since the enclosed communication was written, my beloved husband has been called home where the flowers never fade. In looking over his papers I found the writing and the photograph ready for mailing, and knowing he

wished them sent to the MAGAZINE I mail them to day to your address.

The communication is, therefore, a last message from the writer to the readers of this journal. It is of peculiar interest as showing what may be achieved with the Maderia Vine as a summer climber. Probably few persons ever saw this plant make a growth such as is here presented, and the illustration shows the remarkable capacity it has for development under suitable conditions.— ED.

about the fifteenth of February in a small box (a large cigar box will do), I give them plenty of water and keep them in a warm place; on sunny days I set the box out doors or on the porch where the sun will strike them. About May 1st or as soon as all danger of frost is over, I set them out. I dig a ditch a foot deep and fill it half full of well rotted horse manure, covering this with good garden soil. Plant the tubers about three inches below the surface of the ground, packing the soil well around them; water freely, and as soon as the vines get a few feet high do your best to drown them out, which will be impossible, owing to the soil being so full of sand, gravel and stones. Water vines at least once a day, and preferably in the morning. I take the nozzle off the hose and let the water run until

it stands on the surface of the ground. This looks rather severe, but if you go back to the vines in half an hour and repeat the dose it will be all the better for them. I spray the vines two or three times a week, but never do this when the sun is shining on them. Along in July and August when the vines have grown high and rank I give them a good soaking of liquid cow manure about once a week. This will keep them green and growing, and they will continue to grow until freezing kills them.

A few days ago the ground was covered with snow, but the vines seemed unconscious of the fact, as the leaves are as green as ever and the blossoms white as snow.

Just received the October number of your Magazine and am much pleased with its new form.

CLEON K. MALLONEE.

THE NOISETTE ROSES.

THE Tea, Hybrid Tea and Noisette roses are close kindred. Hybrid Teas and Noisettes are the product of cross-fertilization of Teas with hardy stock. Possessing every charming attribute of the Teas, the Hybrid Teas also excel them in size. The LaFrance type, or Hybrid Tea, is ideal, and the Noisettes, or climbing Teas, excel everything in the floral world for exquisite loveliness; they climb and gracefully cover elevated places, thus making themselves beautifully conspicuous. This fascinating class of roses originated in Charleston, South Carolina. The Noisette Brothers were gardeners who hybridized a white Tea with a hardy climbing rose. The result was an ever-blooming climber of the Tea type. They sent this new creation across the ocean to their brother in France, who had a rose garden. He propagated many new and very handsome varieties by the same method; and from that time, the early part of the century, their numbers have greatly increased, and yearly grown more beautiful.*

Noisette roses are free and hardy in the South, and if planted on the south or east side of a many storied residence, will climb high, spread far, and bloom in profusion to

the farthest tip-end of each long branch. As a rule, even in the far south, it is best to set the root elsewhere than the north side of whatever the vine is to cover. The long, lithe, graceful branches sweep around and wander as freely on the north side as on the south, but if the root stands in the warmest place, the vine will endure many cold winds and coats of ice and snow.

The Noisettes are full of vitality, root well from cuttings, and also take root from layered branches and bloom in abundance the second year, in southern gardens. They make exquisite conservatory climbers; trained up the pillars, festooned overhead under the glass roof, the bright tints of pink, rose, snow, and crimson are in poetic blooming contrast to falling snow flakes and glittering ice on the cold, wintry exterior.

Noisette roses in southern gardens are associated with the nesting song birds of early springtime; with the long summer days they make shady places where they climb, and on till autumn winds bestrew the earth with their fallen, perfumed petals. They bloom every month, except those of winter.

MRS. G. T. DRENNAN.

blush China (Bengal), John Champney, of Charleston, South Carolina, raised a variety which was called Champney's Pink Cluster. A few years after, Philip Noisette, a florist, also of Charleston, raised from the seed of Champney's Pink Cluster a blush variety, which he sent to his brother, Louis Noisette, of Paris, France, under the name of Noisette rose, not giving credit to Mr. Champney, as the originator of the class, which has ever since borne the wrong title of Noisette rose. Louis Noisette received it about 1817."

^{*}The true origin of the Noisette rose is somewhat different from the statement of our correspondent, though for a long time that account was supposed to be correct, but subsequent investigation has shown that the credit of originating this class of roses is due to John Champney, of Charleston, S. C. The correct story is believed to be given in "The Rose," by H. B. Ellwanger, in the following brief account:

[&]quot;From the seed of the white Musk rose fertilized by the



PROFESSOR VAN DEMAN'S FRUIT NOTES.

HOW TO TREAT OLD STRAWBERRY PLANTS.

Old strawberry beds that are good enough to be kept over for another year's fruiting should be given liberal treatment this summer. The tops should be mown close to the ground as soon as the fruit is all gathered and if the ground is wet so no injury will result to the plants, the trash should be burned off at once or as soon as possible. The rows should be "barred off" with a small plow, leaving a strip not over one foot wide, on which the old plants are set. Within a few days from this plowing, if the stuff turned under is dead, the earth should be thrown back to the rows, leaving the center between them all plowed. When the rains come the runners will soon cover the fresh ground with new plants. The centers should be kept well cultivated as long as growth continues. Mulching with straw, fine leaves, marsh hay, or any trash that will not put weed seeds on the ground should be done as soon as the ground begins to freeze. I always apply it more lightly over the rows than just at their edges.

GATHERING BERRIES FOR HOME USE.

How often do we see berries put upon the table that are not fully ripe. They are not near so wholesome nor delicious as if they had been allowed to have a few hours or even days more of sunshine before they were gathered. It requires considerable judgment to know when to gather fruits that will be the best to eat. Many persons get in the habit of picking half ripe berries for sending to market, where they must arrive in sound condition, even if it is at the expense of good quality, and when they are gathered for the table the same ideas are put into practice. This is a great mistake.

To gather berries for home use they should be as ripe as they can be without danger of decaying before they are to be used. Nearly all of them should be left a little while after they turn to the color that they are to have when ripe, for most kinds are not fully ripe when they first appear to be so. Blackberries are especially liable to be so. The contrast in taste between those that have just turned black and those that did so the day before is remarkable, as anyone can quickly tell by trying them. The same is true of raspberries. They should come off the stems almost to a touch, instead of having to be pulled off with difficulty. In picking I have often left bushes behind me that appeared not to have been picked clean for the reason that the firm ones, although well colored, were not fully ripe.

As there are many variations in shades of color, one must be acquainted with this peculiarity, in respect before attempting to gather fruit for the home folks. Children are often sent to pick berries who are apt to think that everything that looks ripe is ripe, and many grown-up folks are of the same opinion. The berries should taste ripe as well as look so. Let us be a little more particular in gathering the fruit for home consumption.

THE TURKESTAN WINTER MUSK MELON.

It is probable that many persons are this year testing new varieties of the musk melon lately introduced by the U. S. Department of Agriculture from Turkestan. Several hundred pounds of the seed were grown in Utah last year for the government, and as these have all been distributed and are doubtless in the hands of those who are anxious to give the varieties fair tests, it may be well to note some of the points regarding them. I have a letter from the grower of the seeds, Mr. John F. Brown of Elgin, Utah, who has also made an eminent success of the culture of the melons as a fruit, and what he says is worthy of attention.

Experiments in different parts of the United States have resulted thus far in quite good success with this new class of winter musk melons only in the far western or irrigated regions, but not in the eastern States. He

thinks they will eventually prove of value in all the melon growing sections, when their culture and treatment is understood.

There is no special method of culture required; the same that other melons need being sufficient. When fall comes on and there is the slightest danger of frost, all the melons that are well developed should be gathered, being very careful not to bruise them in the least. Some may be very large, even to exceed twenty-five pounds, and others small, but the eye and a little experience will soon teach one how to tell a good specimen. They should be stored in a cool and very dry place, such as is suitable for squashes. Never put in underground storerooms or cellars. The damper the climate the greater the care required in this particular.

The season of ripening will vary with the climate in which the melons are grown, with their treatment after gathering, and in some degree with the varieties grown. In the far south they may ripen on the vines before gathering time, and along the northern borders of the melon country they will not reach sufficient maturity. Some of them may be kept until January 1st.

The variety called Khiva, which is known in the government list as "No. 114," is one of the very best in quality. Ir is green on the outside, with faint stripes of dull yellow in some cases. This is the one most largely distributed. Others are being tested by careful experimenters.

H. E. VANDEMAN.

Virginia.

* *

EXPERIMENTS IN GRAFTING.

Last fall I read in the MAGAZINE that some one in France had grafted the Japan quince on the pear. I had never thought of it before, but success seemed probable, for pears will grow on the quince so why not the quince on the pear? I resolved to try it, and have now done so. Both cions and stocks had started somewhat when the grafting was done and the cions kept on without check, the leaves on them now (May 13), being almost as large as they are on the bush from which they were taken. So now, if you like, you may set this beautiful shrub upon a tall trunk, to say nothing of the ease of propagating in this way for ornamental hedging, etc.

Next I took a cion from a seedling Japanese maple (Acer polymorphum), and set in a stock of sugar maple seven feet from the ground, the stock being an inch or more through. Then thinking the red or soft maple (A. rubrum) was, or seemed, more nearly related to the Japan maple with its red shoots and fiery buds, I put a Japanese cion on a soft maple stock. Both are growing or at least both started; they look somewhat dubious just now.

But whatever happens to these two cious, it is plain that success is easily within reach. The sugar maple buds had grown half an inch and the red maple was in bloom. To put a sugar maple on a Japanese root would make it very dwarf no doubt, so Japanese maple on native stocks may be enlarged. If not, why not? However this may be, to exalt this delightful though slow growing shrub in this way, will be worth doing in many cases.

Then I put some privet cions on a white ash stock, but these seem to have failed. I read that they would grow, and perhaps they would next time. Lilac cions grew readily on ash. A lilac top on an ash trunk twenty feet high will be a novelty. All this grafting was of the ordinary cleft grafting method, the easiest kind for the average bungler; an expert could use a process which would sooner produce a perfect union perhaps. Just how long a Japanese maple cion would be covering an inch stock I do not know,—some time, I think.

The vital point, as I understand it, is to be sure the bark of the cion crosses the bark of the stock — at as small an angle as may be, but see that they do cross. The books say put the two barks in line, but this is not easy Slope the cion so as to leave the outside edge the thickest; this will put the pinch of the stock upon the crossing of the barks. You may begin the slope above a bud, so when the cion is pushed down to its place the bud will be below the top of the stock. Such buds grow better than buds higher on the cion. The longer the cion the more it dries up, therefore use short ones. Wax carefully around immersed buds so as not to crush or break them. Slope the cion and put it in without laying it down or touching the cut with your hands; graft in warm days so the wax will work easily, and try not to be long in getting everything secure.

I notice the cut bark of a pear stock darkens before you can lay your saw down and pick up other tools, and while a slight delay may not be fatal, it certainly can do no good.

New York. E. S. GILBERT.

GREAT GROWTH OF ASPARAGUS.

Two years ago I was visiting a relative, and while looking at the garden I noticed on the outside of the fence an asparagus stalk a few inches higher than my head (I am five feet, four inches). This stalk was smooth and young looking at the top, as if it had just come above the ground, and about a half-inch in diameter at top. I was so surprised I went at once to investigate this wonderful vegetable. Nothing had been purposely done to encourage such growth, as my relative never knew it was a vegetable, only knowing it in Germany as an ornament to the flower garden. But what she had done was this: A barrel of wood ashes had been leached off by the side of it, the spring before, to make softsoap. The barrel and contents fell over and the ashes were all in a heap on top of this asparagus root. They were there when I saw it, and this wonderful shoot had grown up right through all these ashes. It was tender down just four feet by measure, and delicious when cooked. This goes to show that ashes are very valuable to asparagus and should be freely used every fall.

MRS. W. M. KNOER.

* *

DRYING HERBS.

The proper time to gather herbs is as soon as they begin to flower. In drying them two methods are frequently employed. One is to tie the herbs in bunches and hang them up in a shed or room, the other is to first spread them out in the sun to dry. By either of these methods the quality will deteriorate. When green and sappy herbs are tied in bunches, fermentation is almost certain to take place, and when there is sufficient to discolor the leaves, their best properties are destroyed.

The better way is to stretch out a piece of wire netting in an open room or shed where there is a free circulation of air, and spread the herbs thinly over this. Thus treated the air acts upon them from all sides and they dry very quickly, without deteriorating in any way. When perfectly dry, put them loosely into paper bags, tie closely to keep out dust, etc., and hang where they will be perfectly dry. In a damp place they will become mouldy and unfit for use. A more convenient way, if time permits, is to rub the dried herbs to powder, and store in jars, keeping them closely covered. When thus prepared they are always ready for use, and one may feel

absolutely sure that they are entirely free from dust and other impurities. In gathering herbs, one should always select a dry, sunny day when rain has not fallen for some time.

Home grown herbs are so immensely superior to the miserable, tasteless ones usually found at grocery stores, that experienced housekeepers are beginning to have them grown for their own use. A small corner even in a city yard, if well cared for, will afford sufficient space to grow herbs for an entire neighborhood. They may even be grown very satisfactorily in boxes.

MARY FOSTER SNIDER.

* *

ANNUALS FOR WINTER.

Some favorite annuals will do finely in helping to brighten the home in winter. Those which have bloomed through the summer should not be used, or the result will be a failure. Stocky young plants, ready to bloom just as frost is liable to destroy our outdoor plants, will usually do well in the window. These, as well as all other plants intended for winter-blooming, should be removed to the house before it is very cold, as the change will have very little effect then. If later they are liable to lose their leaves.

Seed should be sown or slips taken about July, of annuals for winter. Ageratum and alyssum make good plants from August sown seed. Petunias are fine for the window, but if a certain variety is desired, slips should be taken. These are seldom without flowers all through the cold, dull, winter days.

Asters that are a little late, if grown in pots or boxes may be removed to the house, and for several weeks will be an ornament to any window. Daybreak ought to make a lovely show for weeks if grown in pots especially for the purpose. Dwarf Victoria and Vick's Branching are fine varieties and almost equal Chrysanthemums. A plant of pure white aster well filled with flowers cannot be excelled.

Mimulus is a delicate flower and beautifully spotted. It does better with little or no sunlight, just a good, strong light, like a north window.

Ten weeks stock blooms well, and often there are plants from seed sown early that are just coming into bloom in early fall, and these will do finely for the window.

Phlox made a beautiful hanging basket one winter, and was made to bloom continuously by

cutting back the branches as soon as the flowers withered, thus giving clusters of buds on each new branch started. It was bright and thrifty till spring.

Vinca rosea did well for a friend, being full of bright pink flowers all winter. This was in a south window. Many other varieties will do well, but those mentioned are well known ones and general favorites.

Judicious pruning is needed in the window as well as among outdoor plants.

Many plants will do well with ordinary care and our windows may be gay with flowers the greater part of the winter.

AUNT EDA.

* *

PHLOX SUBULATA.

From early childhood I have known Phlox subulata growing wild in the woods. I remember with pleasure rides over what was



PHLOX SUBULATA

known as the "flint hill road," where the highway ran up and down over gentle little hills of so-called flint, carpeted with the starry blossoms of the phlox and covered even close up to the wheel tracks with shrubs and low-growing trees. Occasionally some lover of wild flowers would transplant this pretty phlox to the garden, where it would flourish without any particular care.

The plant is of prostrate habit, seldom rising more than six inches from the ground, and forms a perfect mat covered with flowers of a pinkish color with a darker center. It is quite extensively cultivated in gardens now, and makes a beautiful plant. It is very showy when grown in a mass, especially when surrounded by green grass on a sunny hillside, as

at Highland Park, and it also adds attraction to the hardy border.

There are several forms in cultivation, one variety, alba, with pure white blossoms produces a fine effect when grown with the pinkflowering type.

A variety called "The Bride" has white flowers with very distinct dark markings in the center. It blossoms profusely and is a very desirable variety.

Variety Nelsoni is a white form with very faint markings in the center. It is a free bloomer, coming a little later than the pink subulata.

Another variety called "Vivid" is a most beautiful, bright shade of pink. This I have only seen on the grounds of Mr. J. B. Keller, of this city. It is of recent introduction, and when more generally known is sure to become a favorite on account of its beautiful color.

All of the varieties mentioned are perfectly hardy in this latitude, even in exposed situations.

F. B.

* *

THE PAN-AMERICAN EXHIBITION.

The well-known florist and horticultural writer, Mr. William Scott, assistant horticulturist of the Pan-American Exhibition, writes us as follows, under date of June 12, 1900:

Although the absence of rain has been most unfavorable for the thousands of trees and shrubs planted this spring, many of them late, there are very few failures and the appearance of the plantations is most flourishing. Many more exhibits were sent in than were expected this spring, but in the case of hardy roses it was either plant them now or not at all. The Music Garden is in the center of a broad elevation and scattered over this area are many large beds of Hybrid Perpetuals, Rugosa, Wichuraiana and Crimson Rambler roses. One large bed is filled with standard and dwarf Hydrangea paniculata grandiflora. All of these exhibits were sent in several weeks later than the proper time to transplant, but with careful planting and hard pruning they are making fine growth. Upwards of 6,000 roses are among the exhibits. The principal contributors are Ellwanger & Barry, of Rochester, N. Y., F. R. Pierson Co., Tarrytown, N. Y., Nelson Bogue, Batavia, N. Y., J. C. Vaughn, Chicago, Ill., Jackson & Perkins, Newark, N. Y.

The excavation of the Lakes is complete and grading is now the chief work on the

grounds. The sloping banks of the canals are finely graded and seeding is being done. With access to the hose in every part of the grounds, these banks will soon have a most refreshing appearance.



Mr. Ulrich has obtained several hundred fine red cedars, twenty to twenty-five feet high, and of most symmetrical shape. They are boxed and shaded from the sun and if successfully carried through the summer will have a delightful appearance when located in that part of the ground known as the "Court of Cypresses," which is two basins each 200 feet in diameter and will be filled with PHLOX, THE BRIDE aquatics; one of these basins will be heated

to facilitate the growth of the Victoria regia.

The grounds around the Service Building have a finished appearance. Large flower beds are blooming, and the thousands of visitors who already view the grounds seem surprised at the progress made. The Transportation and Liberal Arts buildings are going up rapidly, and progress is being made on all the buildings.

I was much pleased to hear last week from Mr. Alexander Forbes, of New York, that he considered we were most favorably ahead with all the work compared to past expositions at a corresponding date.

CULTURE AND CARE OF PALMS.

The following observations on the culture and care of palms, made by Mr. O. Wythes in a late communication to the Gardener's Chronicle, contain so much information, and answer so many questions frequently asked by amateur plant growers, that we are doing our readers a service to reproduce them.

I was surprised to see on the continent so many beautiful palms grown in very small pots, and many had been grown in tubs for a number of years without getting a shift; the great secret of success being ample supplies of nutrient

I noticed that when large plants were growing in smallish pots, these were simply masses or roots, but very little soil remaining. They were placed in deep pans, and from these the necessary nutriment was obtained; and it was retained until the plant had absorbed it, and there was nothing left. Some large specimens of Latania Borbonica (Livistonia), with trunks as thick as a man's body, had not been re-potted or re-tubbed for at least twenty-five years, and yet they make splendid leaves annually. I mention this to show that a small palm may easily be overpotted, and by that means made unhealthy, a state of things very difficult to cure, no matter how carefully treated subsequently. Some species make different root growth from others, and these need a different soil, or at least a soil which readily parts with its moisture.

Many palms are ruined when young by the use of a soil that is too retentive of water, or in too great a bulk, so that souring ensues before the roots have taken hold of it and permeated it. Palms differ from other plants in that they should never be dried off, for though there is no active growth in the winter, the plants having numerous roots, any lack of moisture in the soil brings them into a bad way; a yellow tint appears on the leaves, and some of the lower leaves may fall off, a matter that should be guarded against, as the symmetry of the plant is thereby marred and its value deteriorated.

As regards soil and potting, a few words may not be out of place. It may be taken for granted that the smaller the plant the lighter the compost. Large palms have been grown in loam alone, but I prefer a compost that consists of an equal part of turfy loam and peat, with a considerable addition of coarse sand, charcoal broken finely, and a small proportion of bone-meal. This mixture is good for re-potting plants of any size. For sickly plants and for those which have suffered from over-potting the bone-meal may be omitted, affording more sand or old mortar-rubble passed through a half-inch meshed sieve. With small plants for table use it is necessary to pass the compost through a coarse sieve. Of great importance is good drainage to tubs and pots, and much depends upon the manner the potting is done, a loosely potted plant lifting out of its pot, and the formation of rambling roots is encouraged, to the detriment of the more useful fibrous roots which maintain a palm in good health, and help to retain the shapely form so much admired.

Some species, notably Kentias, have a tendency to make what are sometimes not inaptly termed stilt-roots, and though at first no harm results till such time as the plants become furnished with a heavy crown, then the strain on these roots is so great that they break, and the plant topples over and is ruined. As far as my experience goes, the way to check the formation of stilt-roots is to lower the ball; indeed with some plants I have cut away a very strong root, and by so doing it is a easy matter to lower the plants and bring the stilt roots under the level of the soil. Another method is to partially shake out the soil from the roots, and place the roots around the side of a

wide pot, potting the ball lower and using the heavier kind of compost, potting firmly, and using a thin bit of a stick to push the soil among the roots. These stilt-roots are, I imagine, sometimes induced by crowding the plants together when young, the top growths being forced up to the light, and the ball thereby lifted out of the soil. Another evil is failure to repot when it has become necessary, which is then as harmful as overpotting.

Palms when young are injured when their roots are cut, but when larger and a great mass of roots has formed, these may be thinned without injury. It is seldom advisable to cut away strong roots.



PHLOX var. ALBA

In this matter it holds good that the best roots are obtained in pots or tubs having wide bottoms, and that porous are preferable to heavy materials. As regards species of palms, there can be no question as to the value of Kentias in decoration of saloons and apartments. As an example of this I may state that I have had a plant of K. Forsteriana in a living room for many years in perfect health. The secret of good health in this case is keeping the foliage free from dust by sponging it once a week and affording the plant plenty of water, immersing the balls in a tub of water when it is large. I have used fertilizers in the water applied to this plant, say once a week from April to October, and less often in winter. I would not advise the use of manure to any palm that did not possess ample roots and which has been recently repotted.

* *

SAN JOSÉ SCALE.

The Ohio Agricultural Experiment Station has issued lately a Press Bulletin given the following information in regard to the destruction of San José scale:

Summer treatment for the San José scale should begin as early as the 15th of June and be continued until September 15th at least, with intervals of not more than ten days between sprayings. This will destroy a very large percentage of the young and thus prevent its spreading.

Two different mixtures can be used, viz.:

I—Whale-oil soap, used at the rate of one-fourth pound to one gallon of water. This mixture will not injure the foliage of tree fruits.

II—A mechanical mixture of kerosene and water, in the proportion of one gallon of kerosene to ten of water, or what is called a ten per cent solution. It can be used with safety on all tree fruits except the peach.

For winter treatment, which means while the leaves are off, a stronger solution of whale oil soap and water can be used—two pounds of the former to one gallon of the latter.

Kerosene from twenty to 100 per cent. has been used with widely different results. The why has not been determined as yet. Consensus of opinion is that it should be used on a sunshiny day—the higher the temperature the better.

KIND OF SPRAYER.

The whale oil soap solutions can be used with any of the better class of sprayers. The kerosene mixture requires a specially constructed one, with a device for the mechanical mixing of the kerosene and water, of which there are a number on the market.

In the destruction of trees, shrubs, vines, etc., infested with the San José scale, great care should be taken that stumps and sprouts

are grubbed out thoroughly and burned with the trunk and branches—otherwise your work will be in vain and the infection but temporarily checked, not destroyed.

Bulletin 72, Ohio Agricultural Experiment Station, will give further information.

* *

WHO BROUGHT THE LILAC HERE?

There is a tradition that the lilac was first brought to this country by Dr. John Durand, a Huguenot who came to America from La Rochelle, France, in 1690.

Dr. Durand came first to New Rochelle, N. Y., but afterwards settled in Derby, Connecticut, where he died in 1727. Some of his descendants still live in Derby.

How much we owe to the French physician for his gracious act done to keep in remembrance the fatherland. Peace to his ashes! We could wish that these had mingled with the earth under the lilac bushes on Highland Park, or that his spirit might hover over that enchanted spot and breathe the fragrance of the flower he loved so well.

But the evolution of the lilac—the countless varieties—each exhaling its own sweet perfume, the wide range of color, the perfection of form, what a delight they might be to the spirit of the dear old Doctor who had such tender love for this flower that, in that far off time when a sea voyage meant so much, he brought with him his lilac bush!

We can imagine how he cherished it and watched its growth, but how little he dreamed of the perfection by cultivation that should be attained by the plant which he first brought to us from the home-land. Blessings on his memory! We hope the flowers of Paradise yield him as balmy odors as his own loved lilac gave to us in Highland Park on a recent visit there.

Descendant.

* *

GROUP OF EARLY FLOWERING PLANTS.

A cluster of bloodroot, yellow crocus, and scillas, all in blossom at the same time, was one of the prettiest combinations I have seen in early blooming flowers. The pure white blossoms of the bloodroot set off to best advantage the bright yellow of the crocus and the deep blue of the scillas.

F. B.

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A Rep on the wrapper of the Magazine means your subscription expires this month. Please renew promptly.

PANSIES.

What kind of pansy plants shall I buy? This question most people answer by selecting the very largest plants they can find on the dealer's stand. I beg to differ from those of my friends who thus endeavor to get the most for their money.

It has been my experience for years back that I could better dispose of large, overgrown pansy plants, than I could of smaller, younger, and as florists judge — better plants.

How often does it happen that pansy plants which have been producing large crops of cut flowers during a portion of the winter and spring months, are eventually dug up and sold for more money than a younger and thriftier plant will bring, simply because it is a large plant. It is a mistaken notion many people have when they select these plants — of course it is a good thing for the florist and enables him to dispose of a class of plants which would be utterly impossible for him to sell to those who know better. Some dealers invariably ask for the large plants because they take, and it is well, indeed, they do sell, for it helps to turn an honest penny where otherwise the plants would go to waste. But I am glad there is a class who appreciate a good thing when they see it, and select the vigorous young pansy plants and have the constant pleasure of their company in their youth, and of picking their earliest and latest blooms.

Pennsylvania. JAMES T. BAKER.

COMMERCIAL FERTILIZERS.

The Vermont Experiment Station announces that it has finished its report on the yearly inspection of fertilizers, having analyzed 132 brands, the output of nineteen companies, all this year's goods.

Most of the brands were found to fulfill their guarantee, though in some the character of the crude stock is open to criticism.

A large part of the costs to the purchaser of these fertilizers consists of the expense of manufacture and sale, and the manufacturers profit, and what is true in relation to this matter in Vermont is no doubt true generally, consequently the home mixing of fertilizers is advisable for those who will take the pains to inform themselves about it and do the work properly.

The average selling price of the fertilizers sold in Vermont approximated \$28.73 and the average valuation, \$18.08. Two dollars in every five paid for fertilizers met the costs of manufacture and sale. An amount of plant food which costs a dollar might have been bought at the

seaboard for fifty-eight cents in average low priced goods for sixty-three cents in average medium grade brands, and for sixty-eight cents in average high priced goods. In nearly one-fourth of the entire number of brands, a dollar was charged for amounts of plant food which might have been bought at retail in the larger markets for fifty-five cents or less. "Cheap fertilizers" are usually the most expensive.

The average composition of the brands sold is perhaps very slightly higher than last year. Seiling prices have remained unchanged, notwithstanding an advance in the price of crude stock. Plant food is as cheap as it ever was; yet buying mixed goods on time is still a more costly method of getting plant food than is home-mixing or buying on special order.

* *

GARDENIA FLORIDA.

One of the most easily grown and sweetest of our flowering shrubs is Gardenia Florida, or Cape Jasmine. This is a neat evergreen shrub, with pointed, shining, dark green leaves that are ornamental even when the plant is not in flower.

I find this shrub not very tender and that it will winter in a temperature too low for the geranium. It is hardy in the Gulf States, but here in Kentucky it requires the protection of a cellar or pit.

I have seen little in the floral world more perfect than the waxy white blossoms of the Cape Jasmine; each petal is perfectly cut, of the purest waxy whiteness when the flowers first open, changing to a creamy white with age. The flowers are double, almost wax-like in texture, and of the most delicious fragrance. The plant is a very free bloomer, if kept growing, as all the buds are produced on the new growth.

LAURA JONES.

HORTICULTURAL SOCIETIES.

In an address in May before the North Shore Horticultural Society, Massachusetts, by Mr. Wm. J. Stewart, he said many excellent things, and among them the following is worthy of reproduction here for the encouragement it may give to some of our readers for the establishment and promotion of horticultural clubs and societies.

A horticultural society has more power for good in a community than any similar organization. We shall never be able to estimate the tremendous influence exerted on New England life and character during the past half century, and for all coming time, by the Massachusetts Horticultural Society. With the smaller affiliated organizations, such as yours, equal results are possible if you will only work for it. Remember that there is all the difference in the world between a worker in horticulture and a patron of horticulture. As a nation we are yet a young people and our minds are so engrossed in industrial and economic adjustments that we find not the leisure or disposition to devote to the cultivation of the finer sentiments. It is your privilege and duty to turn our attention to higher ideals and more rational living.

LILIUM PHILADELPHICUM.

Many of our readers in the Atlantic States, and States farther west at the north, who have roamed through the woods and thickets in summer, have seen the handsome Wood Lily growing under natural conditions. It is also called Red Lily and Philadelphia Lily.

Gray gives the range of this lily as from New England to North Carolina, and west to Minnesota and Missouri. Britton & Brown say, "Dry woods and thickets, Maine to Ontario, south to North Carolina and West Virginia. Ascending to 4,000 feet in Virginia." It has been collected on the Black Hills of Dakota.

The flower stem is from one foot to three feet in height. The linear lanceolate leaves are arranged in whorls of three to eight on the stems, and sometimes two or three singly, or a single pair. A single upright, vase-shaped, orange-red flower, with purplish or brown spots toward the base, borne at the top of the stem; sometimes, though seldom, the stem divides into two, each bearing a flower at the summit. The flower of natural size and correct in both form and color, is shown in our frontispiece this month, and those who are acquainted with it will acknowledge the faithfulness of the portrait.

This lily, which is, of course, quite hardy, takes kindly to cultivation in light, well drained soil. It can be depended upon where more delicate kinds fail.

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BLACK-KNOT AND PEACH YELLOWS.

The following timely and valuable information for fruit growers is given by the Ohio Experiment Station:

BLACK-KNOT.

Black-knot is a fungous disease affecting the plum, cherry and kindred fruits. The Damson among plums, and the Morello class among cherries are the most susceptible.

Summer Treatment.— Beginning with the growing season the knots develop rapidly. They should be cut off as soon as seen and burned at once. The badly infested branches should be cut off below point of infection and burned, not left under the tree, nor piled in heaps and left in the orchard.

Winter Treatment.—Affected trees that have been properly treated during the growing period will be free from knots, generally speaking. Should any remain after the leaves

have fallen they should be cut off and burned, and badly affected branches also, not later than February 15th, as the spores or seeds are then ripe. A large majority of young trees can be saved by judicious pruning and will ultimately become healthy; otherwise the trees will die and infect others in your and your neighbor's orchard.

PEACH YELLOWS.

Yellows is a highly contagious, incurable disease of the peach. Trees affected with it should be destroyed at the earliest possible moment by uprooting and digging them out and burning roots, trunk and branches, including fruit, on site. No remedy save that has proven successful. Dragging diseased trees or branches through an orchard will infect healthy trees.

Late summer and fall are the most favorable times for detection of yellows by symptoms of fruit and twigs. These are:

- I Premature ripening of the fruit, which is highly colored and spotted and has the flesh marbled with red.
 - 2—Premature unfolding of winter buds.
- 3—Abnormal development of new buds in the trunk and branches, which grow into slender, sickly-looking shoots.

* *

NEW ROSES.

Alexander Dickson & Sons, of Newtownards, Ireland, the celebrated rose growers, are now offering for the first time the new roses described below:

Gladys Harkness. Hybrid Tea. Deep salmon pink.

Lady Clanmorris. Hybrid Tea. Creamy white with delicate salmon center.

Rosslyn. Hybrid Perpetual. Delicate rosy flesh; a sport from Rodocanachi.

Irish Beauty. Hybrid Tea. Single; pure white.

Irish Glory. Hybrid Tea. Single; silvery pink.

Irish Modesty. Hybrid Tea. Single; coral pink.

* *

CELERY GROWING IN FLORIDA.

The region about Sanford, Florida, is becoming noted for celery growing. About the first of May they commence shipping by the car-load for northern markets. The culture of this crop is increasing, and it promises to be of much importance.

STEAMING VIOLET BEDS.

Violet growers under glass have various kinds of insects, worms and fungi to contend with. The soil contains insect-eggs, worms, and fungus spores which at all times are in process of propagation.

An enterprising violet grower of Brockton, Massachusetts, Mr. W. L. Minor, has solved the problem of overcoming all of these pests by underlaying the beds of soil with two-inch drain pipes and then sending steam through the pipes. By three hours of steaming he was able to heat the whole body of soil to 200°, with the result that the insect eggs were destroyed, cut-worms, earth-worms, and other worms were driven to the surface where they died, and the fungus spores were killed. He has now adopted this course as a constant practice, and uniformly makes strong, healthy plants free from insects and fungi.

This practice would no doubt be valuable in raising carnations and roses, and they could also be sub-irrigated.

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SHOW OF AMERICAN ROSE SOCIETY.

The June show of the American Rose Society was held in New York city, at the Eden Musée, June 12th and 13th.

On account of the cool backward spring, roses in the open ground were not at their best, and the number of exhibitors was smaller than had been expected. On the second day a larger number of varieties were brought in, and on the whole the exhibition was a fairly successful one. Although the display was not what had been anticipated, it was an extremely interesting one on account of the exhibit of flowers from many classes of roses, and of the new varieties among the hybrids of Rosa rugosa and R. Wichuraiana. - W. A. Manda, South Orange, N. J., was awarded a certificate of merit for a collection of Wichuraiana hybrids. Another certificate for hybrids of the same rose was awarded M. Horsath, of Glenville, Ohio. One of the varieties in this latter collection was a cross of Wichuraiana with Bridesmaid which appears promising as a pillar rose.

The largest exhibitors were Benjamin Dorrance of Dorranceton, who presented a fine collection of hardy and indoor roses; the Pratt Estate, of Glen Cove, Long Island, having eighty-five varieties of hardy roses; and the New York Botanical Gardens, showing twenty varieties. The collections of these

exhibitors were not entered in competition for prizes.

Siebrecht & Son, of New Jersey, and Wm. Scott, of Buffalo, N. Y., took some of the principal prizes.

For the best display of Madame Gabriel Luizet, W. W. Law took first prize.

For Alfred Colomb and Marshall P. Wilder, Wm. Scott too's first.

For Baroness Rothschild, Siebrecht & Son received first prize.

For Anne de Diesbach, W. W. Law was first.

For Ulrich Brunner and Gen. Jacqueminot, Siebrecht & Son secured first prize.

W. G. Gomersall, Fishkill, N. Y., took first prize for the best twelve varieties.

Mr. George H. Hale, gardener to Mr. E. D. Adams, Seabright, N. J., took the prize Silver Cup, valued at \$35, for a collection of named varieties of roses of not less than 150 blooms. Both of these last named being in the Private Gardener's class.

Miss Ingraham in the Amateur class took prizes for the best twelve blooms and best six blooms of named varieties.

Siebrecht & Son were awarded the Henderson Cup, valued at \$50, for the best display of hardy roses.

The Joline Cup, offered for the best thirtysix blooms of La France was taken by Thomas Young, Jr.

Beside the roses there were displays of hardy herbaceous plants, carnations and orchids.

The time at which this show was held was one of the busiest seasons of the year for the private gardener, and then it being the first show of the Society, and for which no previous preparations had been made, it was evident why no more than did, entered the Private Gardener and Amateur classes. There is little doubt that the competition in these classes will increase with successive exhibitions.

CARNATION RUST DESTROYER.

A natural check to carnation rust has been found. It is another fungus that lives on the carnation rust. The name of this last fungus is Darluca filum. The spores of this rust can be introduced to plants affected with carnation rust. How effective it may be in the destruction of the latter has not yet been determined.

Vearer to the river's trembling edge There grew broad flag flowers, purple, prankt with white, And starry river-buds among the sedge, And floating water lilies, broad and bright.

-Shelley.

Sow turnip seeds. Soap suds for roses. Thorough culture pays. Portulacas are very cheery. Plan a liberal celery supply. Callas should be bedded out. Asters are such thirsty plants. A clean garden is a pleasure garden. Early apple testers: the boys of course.

Double Phlox Drummondi is a real acquisition.

Gorgeous oriental poppies; they ought to be commoner.

The successful gardener is the one who can overcome obstacles.

Most plants in bloom are grateful for a treat of liquid manure, hydrangeas especially.

The blackberry does better on moderately fertile soil; too much wood on very rich land.

Set out your egg plants, the best incubator in the world, and you will not frighten the hen out of her loudest cackle.

Something wrong when the growers complain of overproduction, and hundreds of thousands in our cities hardly have a taste of good fresh fruit.

Signs of the times: The freshly painted signs in various city parks to the effect that bird killing will be severely punished. We rejoice in such indications that at last a strong sentiment for bird protection is aroused.

The jolly market gardener say it is easy to grow crops such as his wagon is loaded down with. Yes, if you observe two secrets of the craft, liberal manuring, liberal culture. Substitute abundant for liberal in the case of manuring, and the young gardener would not be apt to go amiss.

LAYERING HARD-WOODED PLANTS. Many shrubs, climbers, and trees are easily propagated from the new growth by summer layering. This is in reality only a modified way of propagation by cuttings, the only difference being that the layer cutting is left partly attached to the stock until able to depend on its own root. Cut the young branch about two-thirds through. Lay into a groove, fastening the cut part of the branch down with a hook, and cover with soil, leaving the end of the twig bent out above the ground. Let it stay in this shape until next spring, when it will be ready for transplanting as an independent plant.

GARDENING CONTAGIOUS. An excellent western idea comes from Kansas City, Mo., in the shape of a premium of \$250.00 offered by the Daily Times of that town, to the resident in Kansas City, who can show the handsomest lawn of twenty-five feet on July 4th of this year. Flowers, shrubbery, parterres, etc., are all to be taken into consideration. Naturally this premium has had a wonderful effect in stirring Kansas City people up to the possibilities and enjoyment of lawn gardening. Not only did it lead hundreds to the thought of better lawns this year than ever before, but the one premium mentioned inspired the offering of other premiums for out-door improvement. As a result that western city will be in remarkably fine trim the present season. The movement for improved lawns has extended even to the Board of Education, and city school yards have been sodded and planted, that for years had been neglected.

ELIAS A. LONG.

PETALS.

Umbrella plants are in season.

The pretty eleagnus berries are ripe.

Hypericum Moserianum is one of our brightest July flowers.

Plant more veronicas for July bloom; their long spikes are very handsome.

Moonflowers grown from cuttings of blooming plants bloom five or six weeks earlier than those grown from seed.

After every summer rain our little, hard, brown cedar apples send out long, jelly-like streamers of orange-yellow. Are these flowers or insect tentacles?*

The native, early dogwoods were unusually snowy and perfect in their bloom this year.

^{*} See page 191 of this MAGAZINE, March, 1900.

and now, May 28th, blooms Cornus Kousa which waited to display its flowers and leaves together.

We cut down an old boxwood not long ago, and found that the lower branches had layered themselves with soil and made fine roots. When planted they grew off nicely.

The hardy China and Japan pinks make rainbows of the garden borders in summer. I much prefer them to the "hardy carnations" which do not last over the second year, as these do. Prettiest of all are the low, spicy "sweet May pinks" of dear old gardens. I never saw them in any colors but pink and white. They spread all over the ground and thrive for years in the same spot. The foliage is grass-like and the flower stems but three or four inches tall.

We are still ardent admirers of Rosa Wichuraiana, especially just now when it is white with bloom, but do not like the way it is appropriating our whole yard and garden.

Can the hardy heaths be made to thrive in the South Atlantic States? I have often admired them in northern gardens this time of year, but my experiments with Calluna vulgaris were such failures that I hesitate about trying again. We are nearly 2,000 feet above the sea here among the mountains, and it does seem as if the heaths ought to grow for us.

The rhododendron show of our woods is fast tading. Only a few fine belated clumps of Rhododendron maximum have tarried to help celebrate the glorious Fourth. This species varies from pure white to deep rosepink in the color of its flower cones. The minerals in the rocks about which its roots twine may have something to do with this. R. catawbiense showed us its last flowers some time ago. The European hybrids are also a thing of the past.

Very rarely among these foothills we find a dwarf horse-chestnut bush all spangled with stiff spikes of upright creamy flowers. It looks like, and I think it is, the Pavia macrostachya of northern parks and gardens. It is quite a handsome little bush, and deserves the care it gets there. How came it down here in our woods, I wonder?

The linden trees have dropped most of their lemon-scented flowers, but the bees still hover about them, as if loth to give up their stores. Hardly any other trees cast such a dense, cool shade as these.

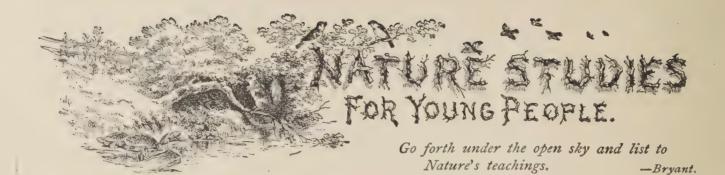
Spiræa filipendula, the pretty meadowsweet or dropwort, has a tuberous root, and a dainty rosette of fern-like leaves just above it-In June and July the thick plumes of white flowers are flung out from stems two or three feet high. It is a herbaceous perennial easily established in most gardens, and beautiful for cutting.

In many of our old gardens there are great clumps of peonias that "do not blossom any more," their owners plaintively tell us. Upon investigation we usually find that they have received little culture or enrichment since their first planting years ago. It is soil-poverty that dwarfs and blights their great buds, not pure perversity or red ants, as we sometimes hear.

In May our holly trees are full of bloom, and each tree then seems like a great bee-hive. The little green, inconspicuous flowers are not especially fragrant, but they must be full of honey. Of the flowers of the persimmon the bees are also very fond.

The finest honey of the whole year, however, — clear, limped-white, and usually stored in the fresh, paper-thin, paper-white comb of the year,— is made from "sourwood" blossoms. This sourwood, Oxydendron arborea, sometimes classed as an andromeda, is handsome enough for much more general park and yard planting. I will try and get a good photo for the MAGAZINE this year. They are like little lilies of the valley strung along on white threads that droop in clusters about three inches long. While the blossoms are yet white, the leaves begin to turn crimson, so that the contrast is often very fine. In winter the bark of the bare young shoots is brilliant red.

Eremurus robustus is one of the most striking plants that ever grew in any garden. It is a hardy, bulbous-rooted plant that forms a great rosette of arching leaves, from the center of which springs a tall, showy flower-spike thickly set with beautiful peach or salmon-colored flowers, each one nearly two inches across. Bulbs that are old and large sometimes send up flower-spikes six to eight feet high, with three or four hundred flowers upon them. The bulbs are rather expensive, but they are an extravagance which a gardener who succeeds with them never regrets, as a good clump well established lasts and grows more beautiful for years. In New England it needs to be protected from frosts, but further south—south of Washington, at least—I think it is quite hardy. Plant in autumn in moist but well-drained compost of sand and good G. loam.



BUTTERFLIES AND MOTHS.

Joyously dancing,
Merrily prancing,
Chasing his lady-love high in the air,
Fluttering gaily,
Frolicking daily,
Free from anxiety, sorrow and care.
Riley.

In touching on this light and airy subject I am considering our many Volunteers who will be armed this summer with that implement of peace,—the hoe. They will have brought before their eyes many creatures which they would doubtless destroy if not made aware how they may be made objects of interest and beauty.

For my own part I dislike to kill a butterfly, but I know of few more absorbing pursuits than raising them. It requires time and care, but every stage is full of interest, and these



PAPILIO ASTERIAS

hand-bred specimens, if you wish to collect, are always more perfect than those allowed to breed in the open, and more highly prized for purposes of sale or exchange.

You all remember the four stages through which these insects pass: The egg, the larva, the pupa, and the perfect insect.

We may begin with the eggs, if we chance to find them on the leaves of shrubs or plants. Cut the twig on which the leaves grow, place it in a vase of water to keep it fresh, and watch it every day till the minute caterpillars appear. Now it is best to furnish them with fresh leaves of the same kind of plant you found them on, and they will continue to eat, grow, shed the skin, till they reach full growth. Each shedding of the skin is called a "moult," and three or four times is the usual number. Then the insect "pupates" or takes its pupa form, from which in due season the butterfly emerges.

It is easier, however, to begin with the caterpillar, and do not fail to notice the plant upon which he is feeding. You need to bring home a supply of this food, and a tin box of any kind is best to keep it fresh. A small paper box, with a leaf or two of its food, is the best and safest way to transport the caterpillar itself.

Breeding boxes are simply made; any good sized paper box, covered with a bit of mosquito netting and containing a jar of water with the food plant in it, and a box of earth, if that species pupates under ground. Stuff soft paper or cotton in the neck of the jar so that the caterpillar will not drown itself, and then watch it carefully.

For the beginner, those caterpillars found nearest home are the easiest to raise, from the fact that their food supply is more easily obtained. Just here "The Boy with the Hoe" has the advantage. He does not have to go afield for his specimens or their food. On potato and tomato plants are found large green caterpillars. They go into the ground to pupate, and form the curious dark brown, jug-like chrysalids so common in fields where these vegetables have been grown. The moth does not come out till the last of June or early in July. It belongs to the family of Sphinx moths, and is most easily found and most active in early morning or at sunset.

The tobacco worm is the larva of the Sphinx Carolina, while the parsley bed and carrot tops will provide you with much small game. These parsley and carrot worms will develop into the beautiful swallow-tail, *Papilio asterias*. We show you an engraving of the caterpillar.

On the common milkweed plant, which grows in every hedge-row, may be found the caterpillars which make the familiar Berenice butterfly, *Anosia berenice*, and the equally well-known Monarch, *Anosia plexippus*; these are two brood butterflies, a good kind for a beginner to study.

The larva of the Vanessa antiopa, or Mourning Cloak, is so ugly, we cannot realize that one of our most familiar butterfly friends

comes from it. Who has not chased it over field and meadow, under a hot summer sun, and had it at last fly away and leave us panting. Four times does this caterpillar outgrow its little coat and get a new one, the last one being the most bristly of all.

Elms, willows and poplars harbor these caterpillars, and you may find the chrysalis hanging from a twig,—appearing, from its bright brown color, like a tortoise-shell case. These butterflies hibernate all winter,—you remember we watched for them this spring.

During the mid-day, caterpillars like to take a siesta,—a little sleep, or at any rate a nap, and they go beneath the leaves, or even crawl down to the ground.

You may often notice eaten leaves where there are no caterpillars in sight, but search on the stems, on the most freshly eaten leaves and do not hesitate to turn these over,—the caterpillar may lie concealed beneath.

Many people dislike crawling creatures, but when once you have seen one of the wigglers come out into a beautiful winged creature and soar away, you will no longer dislike the creeping stage.

In your walks search among the bushes by the roadside. Wild cherry trees are always favorite haunts of many caterpillars, and we may find there our old friends, the caterpillars of the Promethea and Cecropia moths, and this time see the wonderful work that goes into making a cocoon, which we only knew ready made, last winter.

I hope those of you who can will examine a butterfly's wing under a microscope, and see the beautiful way in which the "feathers" are set on. They are really scales, and overlap each other in the most regular and perfect manner.

In birds, particularly those of the ground, we often notice what is called "protective coloring." They are so streaked and striped and so nearly the the color of the ground that they escape notice. This same sort of mimicry is carried out in butterflies. Some of them, when at rest, look like withered leaves, so near is their color and shape to what they imitate. In some varieties the top of the wing is brightly colored, while the underside is dull in tone, insuring protection when the wings are folded together and the

insect at rest. Birds are one of the butterfly's worst enemies, and to ward off these enemies some of the butterflies secrete disagreeable juices, so that the birds will not touch them. It is well to remember that wherever caterpillars are found, there butterflies and birds abound, too, and out of the seven hundred species which are found on this continent, we should be acquainted with a score, at least.

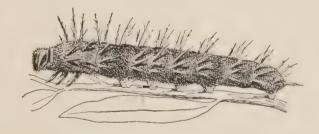


ANOSIA PLEXIPPUS

To assist you in the study of these beautiful insects I should recommend you to use the public libraries, where such books as William H. Edward's "The Butterflies of North America," Dr. Samuel H. Scudder's "Butterflies of New England," Prof. G. H. French's "Butterflies of the Eastern United States," Dr. Holland's "Butterfly Book," and Herman Strecker's "Butterflies and Moths of North America" can usually be found, enabling you to identify your specimens, for pictures of the larvæ are usually given as well as the perfect insects.

Who will begin to rear some of these fragile creatures?

Who will watch their ways, note down care-



VANESSA ANTIOPA

fully times of moult, and periods of change from caterpillar to butterfly?

To the one who sends me from time to time word of some particular species which he is studying, and then writes out the final result, "The Life History of a Butterfly or Moth," I will send a colored plate of some of our most familiar species.

HOT SHOT.

"Rah, Rah, Rah, Hear, Hear, Hear, I am, I am, Vick's Volunteer."

The Volunteers will see that we have a war cry! It came all the way from California. It seems to suggest fire works and general hilarity.

* *

There are eight Volunteers who noted more than sixteen birds during April. Kansas, in the person of Ralph E. Dewey leads with fifty-five. Florida, Roscoe Keith, comes second with fifty. The others are, Fred Hart, Ruth and May Morrow, James K. Primm, and Mrs. C. L. Griffin, and Mrs. F. H. Arnold

* *

I have also been glad to hear from Harold Sykes, Georgie Harvey, J. E. K. Poore, Hattie G. Merrill, Winfield Wainwright, and many other Volunteers.

Alice Ferguson is interested in birds and flowers as well. Let the hear from you again.

Mrs. D. P. Atherton sends us some butterfly eggs. Was she able to watch the process from egg to perfect insect?

**

We always welcome our young Volunteers. Donald Orr Wright, seven years old, sends us the following letter very well written and perfectly spelled.

I am seven years old and want to be a Volunteer. This week I was out in the woods and saw a squirrel's nest. It was in a hollow tree. I looked up in the tree and saw a hole where it came out. There were acorn shells in the nest.

Another seven-year-old, sends us a list of birds he saw in April. This list was also well written. I hope Bruno Earhart liked his picture. Try again.

**

Eleanor Swiggett sends the following about a horned toad.

My brother had one several years ago. He was a cunning little fellow, a native of Arizona. He always buried himself in the sand before a storm. He would eat hard boiled egg, flies, and wasps. His favorite food was live wasps. If he saw one on the window he became much excited; a bumble bee was too much for him. He finally disappeared and was never seen again. The correct name of this toad is "crowned."

* * *

Eliza Weir sends us the following interesting notes on one of our most charming birds, the cat-bird, and says the name is given it on account of its harsh cry. She tells of its

loosely woven nest with the five pretty, bluish green eggs, and remarks that if not disturbed it will return to the same locality for years.

On one occasion I got up into an apple-tree to look into one of their nests; this one was the highest I had ever seen. When my head got a little above the nest, six small catbirds hopped out; it was likely they never saw such a handsome face before. However they all fell down on the ground, stretched out as if dead. I picked them up and soothed them, and regretted extremely I was the cause of all this trouble.

Each one had something broken, either legs or wings, so I got splinters and tied them up. The old birds came and fed them. They all lived but one. I had them in a cage. The mother fed them on berries, cherries, flies and grubs. She never gave them the same thing in succession. A berry, then a cherry, then a fly; she never seemed to forget. When their limbs were healing up how the old birds tuned their notes, singing and singing. Even if they were driven away they came again to renew their discussion as vociferously as ever.

Maud Wright of Virginia, tells how she cared for the birds during the blizzard in '99.

The day before the blizzard, while walking in the woods, I was attracted by the songs of a large number of birds. There were red-birds and wrens, several varieties of sparrows, among them the song and English, thrushes, and other small birds I did not know. The trees were black with the thousands of blackbirds, and each bird was singing its own peculiar song at the top of its voice. That evening it began to snow and that blizzard will be long

remembered by our southern people.

Do the Volunteers suppose the birds were instinctively trying to decide where to go for protection in that terrible storm which followed? All through the storm and snow I fed the birds through my window. A small branch runs through our yard, and I suppose the birds came up it in search of food. I fed some of our shyest birds; even the bluejay came to my window. A crow blackbird came into the basement where a man was sawing wood, so great was his hunger. One day I fed twenty-five different birds. In this way I suppose I saved the lives of some of our sweetest songsters, such as the echo thrush and wren. If all the girls and boys had fed the birds instead of taking advantage of their hunger and trapping them, we would have had many more sweet songs than we had last summer would we not?

**

Rowena A. Clarke also sends us some interesting facts from the south. She calls her story,

OUR WINTER BOARDERS.

They were a most beautiful couple those boarders we had one winter. We have taken boarders for two winters, but, of them all, this couple interested us the most. They dressed so beautifully it was a pleasure just to look at them. We called them the "lord" and "lady," Some might think him a little flashy for he always wore a bright scarlet vest. His coat and cap were a darker shade of red. His lady had the same fancy for one set style and I must say no lady could look handsomer than she did with her gown of gray opening over an underdress of pale sulphur yellow, a touch of red trimming on her sleeves, and a little of the same shade in her jaunty gray cap. Perhaps you are beginning to recognize this couple, and when I tell you their song always commences "Cheer, Cheer, Good Cheer," you will remember having heard some member of this scarlet-vested family sing that same song, for as all of that family dress alike, so they all sing alike, with just a little variation perhaps. Yes, our boarders are the birds and our interesting couple were a pair

of Cardinals. Now let me tell you how tame may become Cardinals,—that are always called so shy. We feed the birds all winter with hominy and rice uncooked, bird seed and scraps from the table, scattered on an upper porch, a low roof below my window, and sometimes on the window sills. Seven or eight different kinds of birds came to be fed, and among them these cardinals. I became well acquainted with this couple and by spring "my lord" would sit on a branch and discuss with me, at a very short distance, such subjects as the weather, etc., but could not be induced to tell me where he and his lady had gone to housekeeping. One day I was startled by calls of distress in a cardinal's voice and I followed it at once to find the cause. When the bird saw me he came straight to me, then turned and flew toward the blackberry vines. Back and forth he flew plainly leading me. I soon discovered in the vines his nest, a funny little fledgling on the edge, and under the nest—a cat! I sent pussy scooting and left my birds happy. The next day I was called again, and again drove away the cat. This occurred every day for a week, the old birds gradually bringing the little ones, there were three,—nearer the house. They readily took soft food I scattered for them and fed the young ones with it. The small birds learned to feed themselves on my low roof and it was very amusing to watch them. They were such funny little gray bits with perky little topnots. It was not until fall the bright feathers began to show. I don't remember seeing the young birds after cold weather set in but the old ones came regularly every day to my window sill for the rice. I would hear them before I was up in the morning, cracking the grain I left the night before, knowing they were early risers. They would crane their necks up to call me through the window and even when the window was open would feed on the sill, though I was moving around the room. The protecting care of the male bird over his mate was beautiful. She never came to the house without his escorting her, though he often came alone. I remember once his just tasting a bit of scrambled egg and then flying away only to return in a few minutes with his little wife, whom he led directly to the unusual dainty. In the spring the male bird showed signs of failing health. One day we missed his visit and have never seen him since. He left a widow and two orphans to survive him. They came all last winter to be fed. The young ones were shy at first, but cold and hunger drove them to it, and last Christmas morning the young male came for the first time, and was afterwards a constant visitor.

* , *

We have received from W. A. C., Boston, the following "Cat Story":

Ned was a cat who spent most of his long life on a large farm in New Hampshire. When he first came to the notice of the family on the farm he was a blind, sprawling little bunch of fur, with pricks in his toes and a little pointed

"Now, Libbie," said papa, as they looked at Tabby and her five kittens, "you may have one of these for yours."

So Libbie chose a little, fat, humpy kitten, and papa chose one for himself. Libbie played with her kitten, but she was not allowed to handle Ned. Soon a great difference was noticed in the two kittens. Ned grew plump and sleek, while poor Fanny grew thin, and though good natured and contented, Fanny remained a common little cat, with mottled yellowish fur. Not so Ned; his coat became very elegant, pure gray and black, marked with curves and lines in a very handsome manner. While he was good natured, too, he was particular that one should not be too familiar.

Ned became a great hunter, and often brought home to Fanny, fat squirrels or bits of rabbits, and Fanny, greedy little cat, ate them in a very hasty manner,—she even was so rude as to sometimes growl at Ned. He was an honorable cat, too, and though often left at night where he could get at pans of creamy milk, or custards, or even meat, he was never known to steal any.

Every night at milking time, he would sit beside papa and watch the process. When the five cows were milked the pails were set beside the path, and though Ned sat near them, a self-appointed guardian, he was never so ill-bred as to help himself. When the milk was taken in the kitchen and strained he always enjoyed his meal, which he had in a saucer of his own. He did not like Fanny's greedy manners and would go without his meal rather than eat with her.

But Ned's greatest pleasure was to go with papa on his long walks. No dog could have been more faithful. When Ned got tired there would be a sudden scramble of feet up papa's back, and then Ned would sit on his shoulder, purring with affection and waving his handsome ringed tail.

He had only one defect: After the death of Fanny he could never bear to have another cat come to live at the farm. Libbie wanted another kitten, however, and one day papa brought home a little white one. That Ned did not like it was very evident, but after the first shock of finding it there he apparently took no further notice of it. He took long hunting trips, often staying away for days, and never bringing home any tid-bits to the new kitten.

He did not seem to love any member of the family but papa, and grew quite sulky. So you may imagine how much surprised Libbie was to find Ned one day playing with the kitten. They frisked about and jumped through the grass, Ned always in the lead and gently making his way to the fields. Libbie watched them for a long time. Nothing was seen of Ned or the kitten for a day, but the next night at milking time Ned was on duty as usual; the kitten was never seen again. Libbie was so sorry that papa brought home another little white kitten. Again Ned grew sulky, and after a short time this kitten, too, disappeared in the same strange manner. When she had gone Ned became again his affectionate self and was so lovable that even Libbie declared he was worth a dozen kittens.

Some of Libbie's friends had heard her wish for a white kitten, of the disappearance of several, and finally she was given another. One day papa was driving about two miles from home when an old woman called from her porch,

"Say, mister, has your little girl lost a white kitten?"

"Yes," replied Papa, "she lost it about two weeks ago."
"Well," said the woman, "that handsome tom cat of yours is a cunning rascal. I saw him coaxing away a little kitten through our pasture. He coaxed it away and left it somewhere in the fields."

So at last we found out what happened to the kittens. Ned thought that the easiest way of getting rid of the intruders.

His life was not all sunshine, for after a longer absence than usual he returned with one paw sadly torn by a trap. He never "meowed," but only "whispered," as Libbie said,

The doors at the farm had old-fashioned latches which he could open if the thumb-piece was on his side. He would spring up, put one paw through the handle and swing into the room. But he always forgot to close the door behind him.

When Ned was three and Libbie six, a little sister came to live in the family. Ned did not fancy her, either. He took no notice of her, or at least until he was obliged to. One day as he was dozing on his rug, baby May learning to creep, took two handfuls of soft fur in her delighted clutch. This could not be borne. Ned sprang up with his forepaws on baby's breast, and as he weighed seventeen pounds the baby fell backwards. Then he carefully put one soft paw on her forehead and she could not get up. Libbie called out for mama who came in and drove Ned out with a broom. He never liked to see a broom afterwards, if you showed him one he would quickly leave the room.

He loved to go for a ramble with the children and was sure to be carried when he was tired, for he sat down in the path and simply howled till some kind little arms lifted him. He sat at table, and wore his bib just like the children. On winter evenings he used to stretch himself out on papa's knee and doze and blink at the blaze.



Let me have audience for a word or two.
—Shakespeare.

Date Palms.

I bought some dates and I planted the seeds. One of them came up and I would like to know what must be done to it to make it grow well and if it can be grown outside of a greenhouse, or whether it is worth bothering with at all.

MISS M. L. B.

Alpine, Pa.

The palm if kept in the light and attention given in watering it will probably continue to grow. It is a slow-growing plant, and this is well to understand, and not expect too much from it. It will be interesting to watch it.

_ ^ _

Plant Lice.—Rose Rust.

r—A few weeks ago I bought from the florist some pansies. A week ago while watering I noticed some small specks on the leaves, and on examining them I found some of the leaves almost covered with small green lice. They were on the under side and the leaves were yellow and had small holes in them. They were also on the buds, and the flowers seem to be getting smaller. I would be very grateful for a remedy.

2—Can you tell me what to do for rust on rose leaves? Cumberland, Md.

A. Z.

1—Syringe the pansy plants with weak tobacco water, which will kill the lice.

2—The only thing to do with rose leaves having red rust on is to pick them off and burn them.

* *

Kerria.-Parsnip.

I—I want to ask for a description of the habits and flower of the Kerria Japonica. Is it the corchorus rose? And to what extent is it hardy?

2—Also is there a time in the growth of the cultivated parsnip that it becomes poisonous for food, and if so, when? I have been told that after a certain stage of growth in the spring has been reached it is unfit for food. Of course it will become tough and woody, but is it poisonous also?

M.E. L.

Ottawa, Kan.

I—Kerria Japonica is what was formerly called Corchorus Japonicus. It is a hardy shrub in this region, and would probably prove to be hardy through most of the western States.

2—The parsnip does not become poisonous.

* *

Plant Named.—Rathbun Blackberry.

r—Please tell me the name of the flower euclosed; it grows as large as a common sized plum tree, and has been a perfect mass of little double flowers that look like little roses.

2—I have been thinking for a long while I would write you to tell me when to put down the tips of Rathbun blackberry to root them, as I have tried so many times, but I have just read in the last number of the MAGAZINE that they refuse to grow for others also.

S. C. S.

Phænix, Ore.

I—The tree is the double flowering crimson hawthorne.

2—There is no trouble about getting the Rathbun blackberry to root at the tip. This it does when the new growth is considerably advanced, and after the fruit is gone.

* *

Lilies to Bloom in Succession.

Will you kindly give me a list of hardy lilies that will as nearly as possible, give a complete summer season of bloom. I am anxious to begin a garden of perennial flowers this fall, and would be glad to know what lilies to order that I may have some in bloom from spring till fall. Your Magazine is of great value to me.

So. Butler, N. Y. MRS. M. W. W.

Lilium tenuifolium. Beautiful vermillion scarlet. A number of bulbs should be planted together about six inches apart, as the plants and flowers are small. Blooms early in June.

L. rubellum. Handsome bell-shaped flowers, deep pink color. Blooms soon after L. tenuifolium.

L. Hansoni. Beautiful yellow dotted with purple. Second week in June.

L. elegans incomparable. Blood red. Blooms about July 1st.

L. candidum. Madonna lily. White garden lily. Fine and hardy. Blooms early in July.

L. Canadense. Handsome native species; scarlet with a yellow throat with black spots. Blooms early in July.

L. pardalinum. A Californian species much like L. canadense and blooming at the same time.

L. Batemani. Clear apricot yellow. A strong hardy Japanese variety. July 15th.

L. auratum. The beautiful Gold-banded lily. Blooms about middle of July.

L. Japonicum longiflorum. White, trumpet-shaped. Blooms latter part of July.

L. tigrinum. A handsome hardy species. Blooms August 1st.

L. tigrinum fl. pl. The double tiger lily. Blooms about August 15th.

L. Leichtlini Maximowiczii. Salmon scarlet studded with purple dots. Blooms from August until frost.

L. speciosum and its varieties, the handsome Japanese lilies. Bloom about August 15th.

EFAMILY COZY CORNER.

Some said, "John, print it"; others said "Not so."

Some said "It might do good"; others said "No."

—Bunvan.

Summer Memories.

We were taking a trolley trip in Massachusetts, where the route followed the highway through magnificent woods, past singing brooks, and imposing residences with pretentious grounds. The day was perfect and all was enjoyed; but nothing so much aroused the enthusiasm pervading the whole car, as did the grounds of a tiny one-story cottage. It was nestled at the foot of a hill, and looked almost like a doll-house; the lawn was green and velvety smooth.

Around three sides stood large tubs, about two feet apart; perhaps there were fifteen or twenty in all, and they were painted a soft green. All sorts of flowers were growing in them, though only one variety in each; and they were riotous with bloom.

Between each tub was a large firkin—painted the same tender green—filled with low-growing, or trailing plants; one mass of bloom like the others. On each side of the entrance to the house, stood a large tub of hydrangeas; on one of the smaller of these I counted twenty-five trusses of blossoms.

Over the cottage, and waving an airy, graceful greeting from the very top of the old-fashioned chimney, was a royal woodbine. Behind, rose the hillside, and over all was the arched canopy of a June sky.

A few dollars at most would cover the expenditure for the display that was here made; love and care did the rest. It far outshone in beauty many of the expensive grounds of the magnificent homes on the same route. The influence of the trolley car in this section, has been to wonderfully increase the attractiveness of the grounds along the numerous lines; and even the simplest and most modest home makes some attempt to beautify its surroundings.

I have many pleasant recollections of them all for winter days. One seen last week, was unique. A hedge of hardy hydrangeas bordered the driveway, and the crescent-shaped bed which it enclosed was filled with marigolds—nothing else. They were fresh and dew-gemmed from a recent shower, and oriental in their magnificent coloring.

One cottage was covered with morning-glorles, so were both sides of the fence which enclosed the lawn; and the leaves were large and a thrifty, dark green.

As I write, the crimson leaves on the woodbine outside the window remind me that memories and photographs are all that Jack Frost will leave us soon; but the long winter evenings give time to draw garden plans for the coming season. Sometime I'd like to tell you about a cold greenhouse; till then, good-bye.

Anabel Andrews.

Notes.

A woman of Oregon wrote in the MAGAZINE, some time ago, that her husband laughed at her for thinking that the foliage of the sweet briar, Rosa rubiginosa, naturalized and apparently wild here in New York, was fragrant. But he did not laugh well, for its leaves are sweet-scented. Working near a row of sweet briers the other day, I could smell them whenever the wind came from them to me, and I noticed after taking up a plant and packing it for transit that my hands were perfumed for the rest of the day. The hybrid sweet briar, Lucy Ashton, has the same fragrance and the same foliage, the only difference I can see is that Lucy is less thorny. I have not yet seen the flowers of the hybrid, it will probably bloom this season. Last spring I set a row of sweet briar seedlings, and there was indeed a contrast between the little plants, scarcely visible to the naked eye and lost to sight altogether upon the plot of open ground except for the stone I put beside each one to show its place, and the strong branching bushes three feet

high, which stood there in the fall. I never imagined any rose could grow so large the first season. The sweet brier flowers are single and do not last very long, but for beautiful coloring, graceful form and fragrance, are not to be equalled every day. The five petals, which are bright clear pink at the edge of the cup, shade imperceptibly into white at the center; there is a cloud of golden stamens, and the buds fragrant with the scent of the foliage are lovely. Then, in fall there is a blaze of large, highly polished, fiery scarlet heps; you see their red tint from afar. The foliage is retained through the first month, or nearly, the plant being a true iron clad, and it has no insect enemies that I know of except a gall fly which makes balls of moss, as you would call them, on the stems of the young canes. I think I have seen wild canes ten feet high and longer.

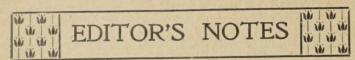
Just now with the peach trees in full bloom, the dead nettle, Lamium purpureum, a member of the mint family, is at its best forming mats or mounds of red, or pure white flowers, for there are two varieties. The red kind has dark purplish foliage, the white one's leaves are of the brightest green. They are, perhaps, somewhat plebeian plants, but their flowers are very welcome for all that, at this time of year. Iron-clad in their hardiness, and almost evergreen, they self sow and spread somewhat if left to themselves, but they are not a pest. You can clear them out at once if you wish.

Here is a great clump (not to say a small forest) of roses, wild ones I am afraid, which later will be a mound of bloom a solid mass of foliage, buds, and thousands of great pink single fragrant roses, but now a mass of white dead nettle covers the ground amid the almost leafless stems growing a foot high with its rough velvety-looking foliage and countless white flowers in leafy spikes. Twenty years ago I set a little slip of the rose; the rest has all come of itself.

In the MAGAZINE for May it was said that searing with a red hot iron would stop the bleeding of a grape vine, but it will not. I tried it some years ago and failed. Grafting wax was also no good. I finally had to let it leak all it wanted to.

Last spring I set the tamarisk, Tamarix Africana. In the fall it was six feet high. This spring it is in flower much to my surprise, for I thought it too young to bloom. Little twigs came out of the brightest and clearest pink set as closely as the kernels on an ear of corn for a while until the growth of the stems carried them a little more apart. There are some thirty flowers on a two-inch stem, and this branch ten inches long has forty-five stems. As the afternoon sun shone through it the other day the lower part of the bush seemed enveloped in a rosy mist, while the young foliage on the higher branches had a mist of green. delicate and really very pretty, it is practically invisible at this time of year from a distance. I doubt if anyone going along the road five rods away has seen it at all; there is indeed a difference between it and the great mass of the Japan quince, a huge scarlet bouquet from the ground up. The buds of the tamarisk grow lighter before they open, and the five petals are nearly white inside. A lens is required to really show the parts. In full bloom it has a most delicate and feathery appearance like nothing else that I can remember now; a branch of it might be a wisp of pink and white vapor or something like that, and I see now that a large mass or hedge of it would be quite showy. Having read that it grows freely from cuttings I cut a twig into three parts and stuck them into the ground early in spring. The foliage on them has grown as much as that on the bush, so I presume they intend to root. In full leaf the tamarisk is seen easily enough, and is an excellent E. S. GILBERT.

New York.



Bulletin of the New York Botanical Garden. The March issue of this publication is occupied with the reports of the various officers and committees, also, botanical contributions as follows:

The roots and Mycorhizas of some of the Monotropaceæ, by D. T. MacDougal and Francis E. Lloyd, with illustrative plates; Some New Grasses from the Southern States, by George V. Nash; A New Trisetum from Michigan, George V. Nash; The Genus Bumelia in North America, by John K. Small; Descriptions of the New North American Thorns, by N. L. Britton. The report of the General Assistant of plantations contains a classified list of the plants in the grounds representing 172 natural families, 1059 genera, and 4020 species, the latter including 328 species of the wild flora of the grounds and not represented in the plantations.

The lists of genera and species bear witness to the mutations of botanical nomenclature. Two prominent examples of these changes are found in the fern list; the Ostrich fern, Struthiopteris Germanica of the 5th edition of Gray's Manual, and which appeared as Onoclea Struthiopteris in the 6th edition of the same work, now appears as Metuccia Struthiopteris; and our old friend, the Hart's Tongue fern, Scolopendrium vulgare, which was recristened Scolopendrium Scolopendriuni in Britton & Brown's Illustrated Flora of the Northern U. S., now appears in this list as Phyllitis Scolopendrium. This list being under the direct supervision of Dr. Britton, the examples clearly testify to to the unreliably of recent changes in botanical names.

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The Amateur's Practical Garden Book.

Containing the simplest directions for the growing of the commonest things about the house and garden, by C. E. Hunn and L. H. Bailey. New

York, The Macmillan Co., 1900. 250 pp., size $4\frac{1}{2} \times 6\frac{3}{4}$ inches. Price \$1.00.

This book is well described by its title-page, which is as follows: It is a book for the beginner, not the expert. It is a book of facts. There is scarcely an opinion in it. The senior author, Charles E. Hunn, has had many year's of experience as a gardener, formerly at the Geneva Experiment Station. A unique feature of the book is the method of illustration. There are 168 marginal cuts or thumbnail sketches of plants, tools, and garden operations. These cuts are not numbered, but seem to be thrown in here and there in the freest and most informal fashion. They are, however, always placed in the margin of the article they illustrate

The arrangement of the topics is alphabetical. The book is in reality a diminutive cyclopedia. It is of handy size and can be carried in the pocket. The binding is attractive, clean, durable, and sensible. Some of the common vegetables discussed are corn, beans, peas, celery, lettuce, onions, potatoes. These are supplemented by an article on the management of the vegetable garden in general. There is no general article on fruit growing, but apple, pear, peach, plum, and cherry, and other important fruits are separately considered. Perhaps the major part of this book is devoted to ornamental plants, some of the larger topics being annuals, bulbs, aquatics, bedding, shade trees, shrubbery, lawn and herbaceous perennials, the latter topic being discussed under border. Garden operations are described under budding, grafting, pruning, potting, watering, seed sowing, fertilizers, syringing, storing, etc. Insects and diseases are also treated. On the whole it is an excellent piece of book-making, and can be recommended in the highest terms to beginners. We notice no errors of importance. Acroclinium is misspelled. Some of the cross references are a trifle inaccurate; for instance, under border reference is made to trees, but there is no entry under *trees*, though there is an article on *shade trees*. Orgyalis sunflower is perhaps not as good form as Helianthus orgyalis. This plant is found in nursery catalogues under Helianthus not under Orgyalis. As a reviewer in the *Nation* has justly said, Mr. Hunn's book is remarkable for giving the common facts which specialists are so apt to overlook but which everybody wants to know.

**

The Book of Gardening. A Handbook of Horticulture.

This is the title of a volume of of 1200 pages, issued in London by the publishing house of L. Upcott Gill, and imported and sent out in this country by Charles Scribner's Sons, New

York. It is a composite work by thirteen able writers and specialists in horticulture, and the whole edited by W. W. Drury, a well known English horticulturist. With such authority for the contents, the book must be considered an exponent, to the extent of its treatment of English gardening at the present time. The volume is a handsome one in its mechanical execution and is finely and freely illustrated with half-tone and wood engravings and a considerable number of full page plates. The index is very complete. Although an English work it will prove an excellent reference book for gardeners and amateurs in this country, who, of course, must take into account differences of climate, and differences of practice resulting therefrom. The price, which is six dollars and a half, will be the great hindrance to a large circulation among the people.

In the subjects considered the whole range of gardening passes under review; gardening in the open ground and under glass; landscape gardening, lawns, ornamental grounds, hardy shrubs, trees and plants, flowering plants of all kinds, and fruits and vegetables.

The list of plants presented and recommended would have to be materially modified for this country, but this the intelligent gardener would understand, though a tyro might be led astray.

In commencing the volume the laying out of grounds receives first attention. The instructions on this subject are clear and brief and well illustrated, and sufficiently varied and extended for working directions. The subject is treated wholly from the the view of what is known as the "Natural Landscape Style," and without a hint of the brick and mortar and straight lined beds, and clipped trees and shrubs that some of the so-styled "Garden Architects" in this country are trying to make our people believe is the "Coming Style" of gardening. In a word, this portion of the book is very excellent, and can be applied here as well as in England.

From the chapter on "Florist's Flowers" some good ideas can be obtained, though the lists of varieties given would have to be largely discounted, and the topic as a whole, as here treated, would be passed by, by our gardeners who have the best works on the subject published in this country. The chapters on Annuals and Biennials and on Hardy Herbaceous Perennials are quite full and very good; so, also, the chapters on Hardy Bulbs and Tubers, and Rock Plants. The subject of Hardy Trees and Shrubs receives careful attention. The chapter on Ferns is very full, and the ordinary amateur would be surprised to learn the richness of this class of plants for outdoor and indoor culture.

The instructions for orchids and greenhouse plants are generally applicable here. The chapter on "Cacti and other Succulents" is very good and useful. The subject of Aquatic Plants is well treated.

The general instructions on fruits and vegetables will be found useful, though in their application seasons and climates will be modifying factors, and the varieties employed in this country and Great Britain are widely divergent. The chapters on "Pests Generally" and on "Manures," are excellent.

As a whole this book is a valuable work of reference for the gardener or amateur in this country who is able correctly to estimate its limitations.

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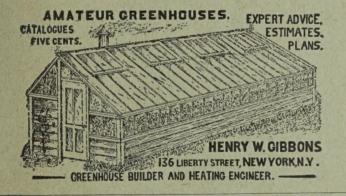
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